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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETY OF PARIS;

PRESIDENT OF THE LINNEAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

——"VIRESQUE ACQUIRIT EUNDO."——*Virg.*

VOL. XIX.

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OF THE ENGLISH NAMES

IN VOL. XIX.

April 1. 1824. Published by Jas. Sowerby, London.

DIGITALIS purpurea.

Purple Foxglove.

DIDYNAMIA Angiospermia.

GEN. CHAR. *Cal.* in 5 segments. *Cor.* bell-shaped, five-cleft, inflated. *Caps.* ovate, of 2 cells, with many *seeds.*

SPEC. CHAR. Segments of the calyx ovate, acute. Corolla obtuse; its upper lip undivided. Leaves downy.

SYN. Digitalis purpurea. *Linn. Sp. Pl.* 866. *Sm. Fl. Brit.* 665. *Huds.* 275. *With.* 555. *Hull.* 138. *Sibth.* 197. *Abbot.* 139. *Curt. Lond. fasc.* 1. *t.* 48. *Woodv. Med. Bot. t.* 24. *Raii Syn.* * 283.

THE "stately and elegant" Foxglove, as Mr. Curtis, with his usual taste for the genuine beauties of Nature, denominates it, is most abundant in the northern and rather hilly parts of Great Britain, growing about hedges and thickets, on a dry chalky, loamy, or gravelly soil, flowering in June and July. In Norfolk and Suffolk it rarely, if ever, occurs; but is found about Charlton and other parts of Kent. In gardens it is often cultivated, especially the white variety, which, however, is less handsome than the red one.

Root biennial, fibrous. Stem upright and wand-like, leafy, roundish, downy, 3 or 4 feet high. Leaves alternate, on footstalks which are often winged; the leaf itself is ovate, crenate, downy, rugged and veiny; the radical ones largest. Spike terminal, erect, simple, formed of a great number (sometimes 60) of large, pendulous, scentless flowers, each on a short round stalk accompanied by a bractea. The calyx is soft and downy. Corolla an inch and half long, tubular, or rather bell-shaped, of a rich purplish crimson, elegantly speckled, and somewhat hairy, within; its margin slightly lobed. Stamina springing from the tube, bent, with large, smooth, 2-lobed incumbent antheræ. Stigma cloven. Capsule superior, ovate, 2-celled, full of innumerable small seeds.

Foxglove has of late been much used in medicine to allay irritability and retard the pulse, from which properties it is useful in incipient consumptions. It has for some years been celebrated in dropsies, and Dr. Withering's book on the subject is well known.

How extraordinary is it that no old original English name should be known for so striking a plant! That in present use is derived from *Digitalis Fuchsii*, Fuchs's Glove; Fuchs or Fuchsius having first named it *Digitalis*. In Yorkshire it is called Foxes' Gloves.

DIGITALIS purpurea.

Purple Foxglove.

DIDYNAMIA Angiospermia.

Gen. Char. Cal. in 5 segments. Cor. bell-shaped, five-cleft, inflated. Caps. ovate, of 2 cells, with many seeds.

Spec. Char. Segments of the calyx ovate, acute. Corolla obtuse; its upper lip undivided. Leaves downy.

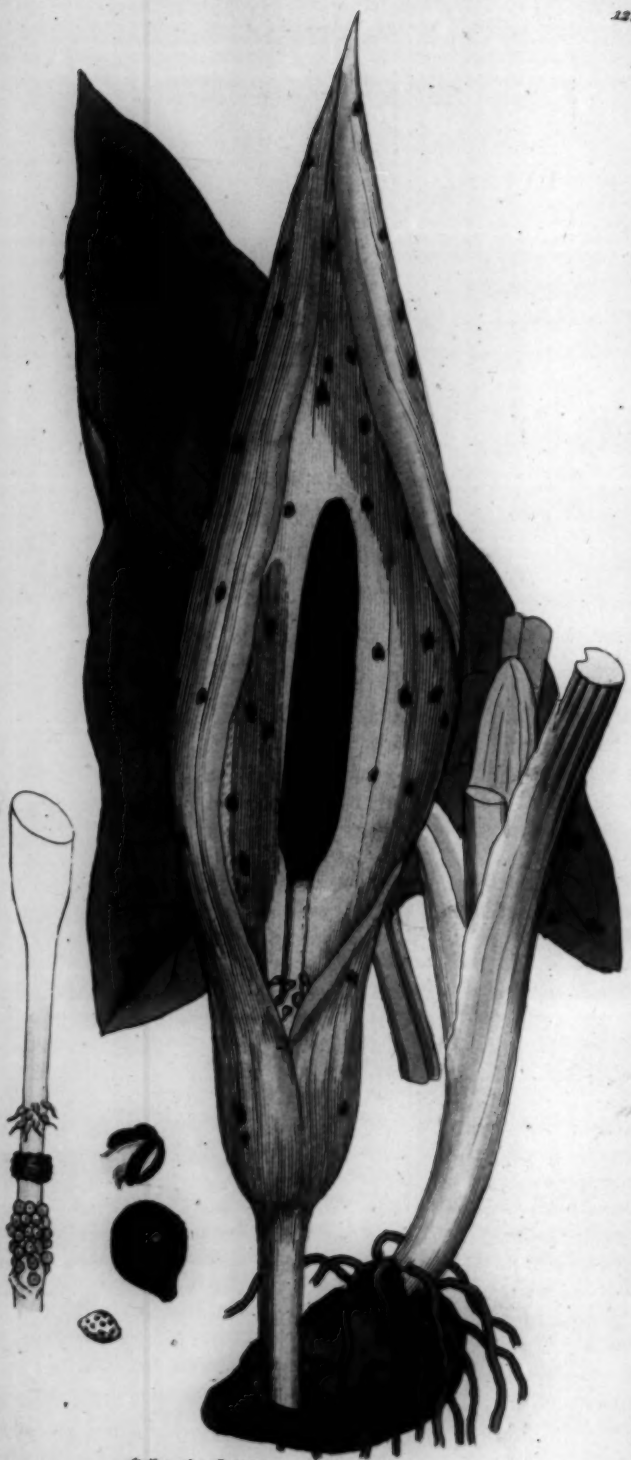
Syn. Digitalis purpurea. Linn. Sp. Pl. 856. Sm. Fl. Brit. 665. Hudson 275. With. 557. Mill. 158. Stokes 197. Ger. 139, Curt. Lond. Fasc. I. t. 48. Woodv. Med. Bot. t. 21. Fuch. Hist. 295.

THE "stately and elegant" Foxglove, as Mr. Curtis, with his usual taste for the pleasing beauties of nature, denominates it, is most abundant in the northern and rather hilly parts of Great Britain, growing about hedges and thickets, on a dry chalky, loamy, pretty gravelly soil, flowering in June and July. In Norfolk and Suffolk it is rare. It occurs, but is found about Chesham and other parts of Kent. In gardens it is often cultivated, especially the white variety, which, however, is less handsome than the red one.

Root biennial, fibrous. Stem upright and round-like, leafy, roundish, downy, a or 4 feet high. Leaves alternate, on footstalks which are often winged; the last nearly ovate, crenate, downy, rugged and veiny; the radical ones largest. Spike terminal, erect, simple, formed of a crest (sometimes 60) of large, pendulous, scarlet flowers, each on a short round stalk accompanied by a bract. The calyx is soft and downy. Corolla an inch and half long, tubular, or rather bell-shaped, of a rich purplish crimson, elegantly spotted, and somewhat hairy within; its margin slightly lobed. Stamina springing from the tube, bent, with large, hirsute, 2-lobed incumbent anthers. Stigma oblong. Capsule superior, ovate, 2-celled, full of numerous small seeds.

Foxglove has of late been much used in medicine to allay irritability and retard the pulse, from which properties it is useful in pulmonic consumptions. It has for some years been celebrated in dropsies, and Dr. Withering's book on the subject is well known.

How extraordinary is it that no old original English name should be known for so striking a plant! That in present use is derived from Digitale Purkii, Tuche's Clove, Fuchs or Purkius having first named it Digitalis. In Yorkshire it is called Faxe' Gloves.



April 1. 1806. Published by Jas. Sowerby, London.

ARUM maculatum.

Cuckow-pint, or Wake Robin.

MONOECIA Polyandria.

GEN. CHAR. *Sheath* of one leaf, rolled together at the bottom. *Spadix* cylindrical, naked above, bearing *stamens* below the middle, and *germens* at the base. *Berries* of 1 cell.

SPEC. CHAR. Stem none. Leaves halberd-shaped, entire. Spadix club-shaped, obtuse.

SYN. Arum maculatum. *Linn. Sp. Pl.* 1370. *Sm. Fl. Brit.* 1024. *Huds.* 395. *With.* 497. *Hull.* 198. *Relh.* 353. *Sibth.* 177. *Abbot.* 197. *Curt. Lond. fasc.* 2. *t.* 63. *Woodv. Med. Bot. t.* 25.

Arum. *Raii Syn.* 266.

AT the first approach of spring the verdant shining leaves of the *Arum* are seen shooting up abundantly wherever any brushwood protects them from the tread of men or of cattle. In May the very extraordinary flowers appear. In autumn, after both flowers and leaves have vanished, a spike of scarlet berries, on a simple stalk, are all that remains, and few persons, as Mr. Curtis observes, are aware of the plant to which they owe their origin.

The root is perennial, tuberous, abounding with a mucilage which affords starch, and with a peculiar hot acrimony, lost in drying; so that the powder of *Arum* kept in the shops can only be of use in consequence of what is compounded with it. Leaves radical, erect, halberd-shaped, entire, mostly spotted with black. Stalk radical, simple. Sheath erect, large, acute, hollow, pale green, sometimes spotted, enfolding the *spadix* or pillar of fructification, whose summit is cylindrical, obtuse, purplish, spongy within, supposed to perform the functions of a *corolla*, or something analogous to respiration: below this, after a naked contracted space, are several rows of glands tipped with filaments; then a dense band of purple sessile *antheræ*, below which stand numerous germens. This position of the flowers, exactly analogous to that of the most genuine monoecious plants, has induced us to remove this genus to *Monoecia*. No principle can reconcile it to the *Gynandria*.

ARUM maculatum.

Cuckoo-pint, or Wake Robin.

MONOECIA Polyandria.

Gen. Char. Sheath of one leaf, rolled together at the bottom. Spadix cylindrical, naked above, bearing stamens below the middle, and germens at the base. Berries of 1 cell.

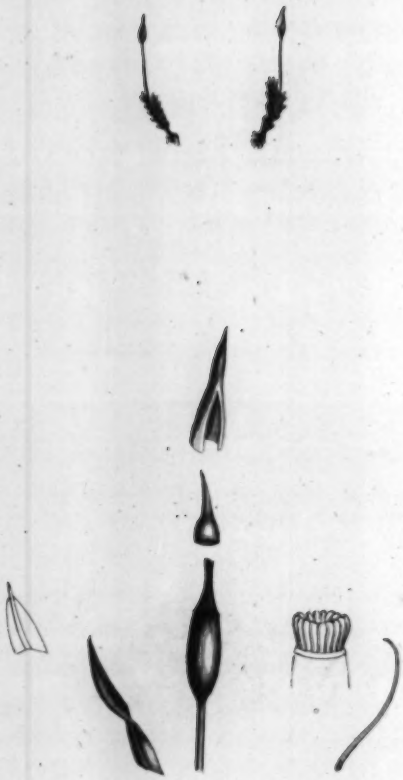
Spec. Char. Stem none. Leaves halberd-shaped, entire. Spadix club-shaped, obtuse.

Syn. Arum maculatum. *Linn. Sp. Pl.* 1370. *Sm. Fl. Brit.* 1024. *Hudс.* 397. *With.* 497. *Hull.* 196. *Relh.* 355. *Sibth. Prod.* 387. *Curt. Lond. Fasc.* 3. t. 63. *Woods Mem. Bot.* t. 25.

Arum. *Rupp. Syn.* 256.

AT the first approach of spring the verdant shining leaves of the Arum are seen shooting up abundantly wherever any brushwood protects them from the head of man or of cattle. In May the very extraordinary flower is spent. In autumn, after both flowers and leaves have vanished, a spike of scarlet berries, on a simple stalk, are all that remains, and few persons, as Mr. Curtis observes, are aware of the plant to which they owe their origin.

The root is perennial, tuberous, abounding with a mucilage which affords starch, and with a pectinated acrimony, lost in drying; so that the powder of arum kept in the shops can only be of use in consequence of what is compounded with it. Leaves radical, erect, halberd-shaped, entire, mostly spotted with black. Stalk radical, simple. Sheath erect, large, acute, hollow, pale green, sometimes spotted, enfolding the spadix or pillar of fructification, whose summit is cylindrical, obtuse, purplish, spongy within, supposed to perform the functions of a corolla, or something analogous to respiration: below this, after a naked contracted space, are several rows of glands tipped with filamentary fibres, a close band of purple sessile capsules, below which stand numerous germens. This position of the flower is very analogous to that of the most genuine monoecious plants, and inclined us to remove this genus to Monoecia. No principle can reconcile it to the Gynandria.



April 1. 1824. Published by Jas Sowerby, London.

TORTULA mucronulata.

Pointed-leaved Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem often divided. Leaves spreading, lanceolate, pointed, keeled. Capsule cylindrical inclining to ovate. Lid awl-shaped.

SYN. Tortula mucronulata. *Swartz. Musc. Suec.* 40. *Sm. Fl. Brit.* 1250.

T. decipiens. *Sibth.* 285.

Barbula unguiculata. *Hedw. Sp. Musc.* 118. *Crypt. v.* 1. 59. *t.* 23, without the synonyms.

Bryum mucronulatum. *Dicks. Crypt. fasc.* 3. 3. *With.* 817. *Hull.* 258.

B. tenue barbatum, foliis angustioribus et rarioribus. *Dill. Musc.* 385. *t.* 48. *f.* 49.

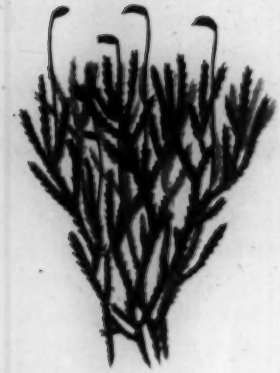
COMMON on walls, heaths, and sandy banks, bearing fruit in moist weather from the end of January till April.

Roots fibrous, perennial. Stems upright, about half an inch high, forming tufts, leafy, simple or divided. Leaves pale green, loosely imbricated, rather spreading, lanceolate, entire, keeled, furnished with a strong elevated rib, which is extended beyond the tip into a short point. In some young shoots the leaves are remote and much smaller. Stalk terminal, solitary, erect, half an inch or more in height, of a beautiful crimson below, greenish yellow above. Capsule erect, slightly ovate, smooth, brown, with a purple mouth. Lid awl-shaped, mostly oblique, red or tawny, about as long as the capsule. Fringe of the same length, red. Veil pellucid.

Sometimes the fruitstalk swells towards the top, and in that state we suspect it to be Dr. Sibthorp's *T. unguiculata*. It often much resembles *Dicranum purpureum*, but the generic character is sufficient to distinguish them.

TORTULA mucronulata.

Pointed-leaved Screw-moss.



April 1. 1804. Published by Jas Sowerby, London.

HYPNUM albicans.

Whitish Silky Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem branched, ascending. Leaves imbricated, ovate, pointed, three-nerved. Capsule ovate, curved. Lid conical, pointed.

SYN. Hypnum albicans. *Necker. Musc.* 180. *Sm. Fl. Brit.* 1309. *Hedw. Sp. Musc.* 251. *Crypt. v.* 4. 13. *t.* 5. *Dicks. Crypt. fasc.* 1. 6. *H. Sicc. fasc.* 5. 21. *With.* 850. *Hull.* 269.

H. sericeum gracile albicans, capsulis subrotundis. *Dill. Musc.* 328. *t.* 42. *f.* 63.

H. terrestre erectum humilius albicans, ramulis teretibus. *Dill. in Raii Syn.* 83.

GATHERED by Mr. Turner on the sandy cliffs at Gorleston near Yarmouth, where its fruit is to be found in March or April. In general, though this moss is common in dry sandy barren places, the fructification is rare.

The pale whitish green of the leaves, very shining when dry, readily betrays this species. The stems are an inch or two high, ascending, repeatedly branched, the branches clustered, erect, round, leafy. Leaves closely imbricated every way, ovate, pointed, concave, entire, with 3 ribs, which for the most part disappear towards the point. Fruitstalks an inch long, purple, springing from near the base of the branches. Capsule ovate, short, curved and drooping, of a rusty brown, smooth. Lid conical, with a little sharp, often oblique, point.

HYPNUM albicans.

White Silky Feather-moss.

April 1. 1804. Published by Jas. Sowerby, London.

HYPNUM lutescens.

Yellowish Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem procumbent, much branched. Leaves imbricated, lanceolate, pointed, three-nerved. Fruitstalks roughish. Lid conical, a little beaked.

SYN. Hypnum lutescens. *Huds. ed.* 1. 421. *Sm. Fl. Brit.* 1311. *Hedw. Sp. Musc.* 274. *Crypt. v.* 4. 40. *t.* 16. *With.* 848. *Hull.* 269. *Relh.* 432. *Sibth.* 298. *Abbot.* 245. *Dicks. H. Sicc. fasc.* 9. 21.

H. sericeum γ. *Huds.* 506.

H. sericeum, surculis longioribus et rectioribus, capsulis incurvis. *Dill. Musc.* 325. *t.* 42. *f.* 60.

Leskea longifolia. *Ehrh. Crypt.* 281.

FOUND in dry heathy hilly spots, more especially on a calcareous soil, where its shining yellow hue renders it conspicuous. Mr. Turner sent it from Bradwell near Yarmouth, and Mr. Joseph Woods from the southern part of England. It fructifies from January to April.

Stems perennial, four to six inches long, prostrate, much branched and spreading, the branches round, leafy, various in length. Leaves imbricated every way, lanceolate, entire, long-pointed, with 3 nerves, and sometimes 2 more nerves (or perhaps plaits) near the edge. Fruitstalks plentiful, waved, of a fine red, minutely granulated near the top. Capsule inclined and somewhat curved, brown, polished. Lid conical, with a short bluntish beak.

Mr. Sowerby has repeatedly and constantly found the inner fringe with a simple row of teeth, and I have verified his observation, which confirms the accuracy of Ehrhart in making it a *Leskea*. Yet the excellent Hedwig must have seen the intermediate teeth which he delineates. His whole figure is not a happy representation of our plant. Does it vary? or can his be another species?

HYPNUM lutescens.

Yellowish Feather-moss.

CRYPTOGAMIA Musci.

Gen. Char. Caps. ovate-oblong, from a lateral scaly sheath. Outer fringe of 16 teeth, dilated at the base: inner a various-toothed membrane. Veil smooth.

Spec. Char. Stem procumbent, much branched. Leaves imbricated, lanceolate, pointed, three-nerved. Fruitstalks roughish. Lid conical, a little beaked.

Syn. Hypnum lutescens. Huds. ed. 1. 492. Sm. Fl. Brit. 1311. Relh. Sp. Musc. 274. Dicks. v. 4. 10. t. 16. With. 838. Hull. 269. Neck. 432. Stokh. 298. Schkuhr. 246. Dicks. Fl. Sicc. fasc. 9. 21. H. sericeum γ. Huds. 500.

H. sericeum, seticulis foliorum et rectioribus, capsulis incurvis. Dill. Musc. 322. t. 42. f. 60.

Leskea longifolia. Hedw. Crypt. 231.

FOUND in dry heathy hilly spots, more especially on a calcareous soil, where its shining yellow hue renders it conspicuous. Mr. Turner sent it from Bradwell near Yarmouth, and Mr. Joseph Woods from the southern part of England. It fructifies from January to April.

Stems perennial, four to six inches long, prostrate, much branched and spreading, the branches round, leafy, various in length. Leaves imbricated every way, lanceolate, entire, long-pointed, with a nerve, and sometimes 2 more nerves (or perhaps plaits), near the edge. Fruitstalks plentiful, waved, of a fine red, minutely granulated near the top. Capsule inclined and somewhat curved, brown, polished. Lid conical, with a short blunttish beak.

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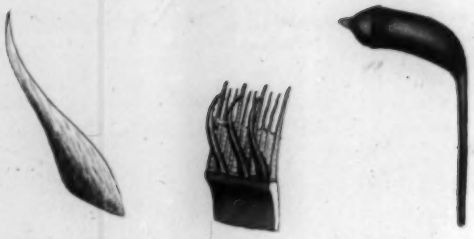


April 1. 1804. Published by J.d. Sowerby, London.

HYPNUM stellatum.

Yellow Starry Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem erect, branched. Leaves ovate, pointed, entire, without nerves, very much spreading. Lid conical.

SYN. Hypnum stellatum. *Schreb. Lips.* 92. *Sm. Fl. Brit.* 1322. *Hedw. Sp. Musc.* 280. *Dicks. Crypt. fasc.* 1. 5. *t.* 1. *f.* 7. *H. Sicc. fasc.* 6. 23. *With.* 846. *Hull.* 268. *Relh.* 437. *Sibth.* 301. *Abbot.* 246.

H. comâ lutescente, extremitatibus stellatis. *Dill. Musc.* 302. *t.* 39. *f.* 35.

NOT uncommon in turfy bogs, but the fructification is not often to be found. The season for it is about March or April.

The stems grow erect, either in tufts or intermixed with other mosses, and are more or less branched, the branches pointing upwards, covered with bright yellowish green, or even golden-coloured, leaves, which spread very much, often giving a starry appearance to the summit of each branch; they are broad at the base, tapering to a long point, nearly flat, entire, smooth, and without any rib or nerve: the lowermost become brown or black. Fruitstalks about two inches high, capillary, waved, crimson. Sheath of several lanceolate striated close scales. Capsule drooping, curved, cylindrical, somewhat ovate. Lid conical, short, acute.

Dillenius, who never saw the fructification of this *Hypnum*, could not with certainty distinguish it from the *cuspidatum*. Mr. Dickson was the first in England who clearly determined it as a species.

HYPNUM stellatum.

Yellow Starry Feather-moss.

CRYPTOGAMIA Musci.

Gen. Char. Caps. ovate-oblong, from a lateral scaly sheath. Outer fringe of 16 teeth, dilated at the base: inner a various-toothed membrane. Veil smooth.

Spec. Char. Stem erect, branched. Leaves ovate, pointed, entire, without nerves, very much spread-ing. Lid conical.

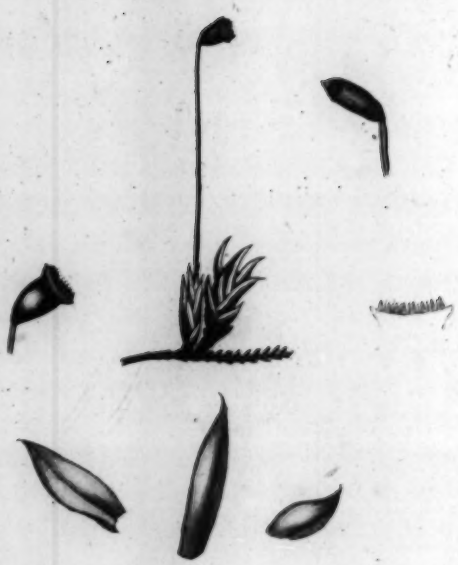
Syn. Hypnum stellatum. Schreb. Spic. 92. Sm. Fl. Brit. 1229. Hedw. Sp. Musc. 280. Dicks. Crypt. Fasc. I. t. 4. f. 7. H. Sick. Fasc. 6. 25. Fl. Fr. 846. Fl. Fl. 2505. Roth. 317. Stark. 201. Abbot. 246.

H. comâ lutescente, ex cæruleo stellata. Dill. Muse. 302. t. 39. f. 2.

NOT uncommon in turfy bogs, but the fructification is not often to be found. The season for it is about March or April.

The stems grow erect, either in tufts or intermixed with other mosses, and are more or less branched, the branches pointing upwards, covered with bright yellowish green, or even golden-coloured, leaves, which spread very much, often giving a starry appearance to the summit of each branch; they are broad at the base, tapering to a long point, nearly flat, entire, smooth, and without any rib or nerve: the lowermost become brown or black. Fruit-stalks about two inches high, capillary, waved, crimson. Sheath of several lanceolate strix and close scales. Capsule drooping, curved, cylindrical, somewhat ovate. Lid conical, short, acute.

Dillenius, who never saw the fructification of this Hypnum, could not with certainty distinguish it from the cuspidatum. Mr. Dickson was the first in England who clearly determined it as a species.



May 1. 1804. Published by Jas Sowerby.

HYPNUM fluviatile.

Creeping River Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem creeping. Branches elongated, flaccid. Leaves ovate, concave, single-ribbed, curved. Lid convex.

SYN. Hypnum fluviatile. *Swartz. Musc. Suec.* 63. *Sm. Fl. Brit.* 1330. *Hedw. Sp. Musc.* 277. *t.* 71. *f.* 4.
H. luridum. *Swartz. Musc. Suec.* 58.

FOR this rare moss, a new acquisition to the British Flora, we are obliged to Mr. Turner, who is about to describe it in his work on Irish Mosses. It grows upon stones in rivers, and was discovered in Ireland by Dr. Scott and Mr. R. Browne. Specimens from Dr. Swartz himself have determined it to be his *H. fluviatile* as well as his *luridum*; but the *luridum* of Hedwig is the *palustre* of Linnæus, an erect species, whose leaves have no midrib.

The *H. fluviatile* is perennial, and, we presume, bears its fruit in summer. The stems are quite prostrate, creeping and entangled, thread-shaped, much branched, at length naked and wiry. Branches mostly simple, ascending, various in length, flaccid, leafy. Leaves imbricated, all more or less curved towards one side, small, rather shining, ovate, concave, entire, acute, smooth, having a rib continued to their point: when young they are of a delicate pale green, blackish when old. The leaves of the sheath have no rib. The fruit-stalks are an inch high, pale red. Capsule cylindrical; oval when ripe, short, drooping, and a little curved. Lid convex, inclining to conical, with a short blunt point.

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May 1. 1804. Published by Jas. Sowerby, London.

JUNGERMANNIA curvifolia.

Curve-leaved Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Female, *Cal.* tubular. *Caps.* of 4 valves, on a fruitstalk. *Seeds* attached to elastic filaments.

SPEC. CHAR. Shoots creeping, branched, cylindrical. Leaves imbricated, roundish, with a deeply cloven point; the segments incurved.

SYN. Jungermannia curvifolia. *Dicks. Crypt. fasc.* 2. 15. *t.* 5. *f.* 7. *With.* 883. *Hull.* 281.

FOUND by Mr. Dickson in the Highlands of Scotland, and by Mr. Griffith in North Wales. Our specimens were gathered by Mr. Joseph Woods and Mr. G. Sowerby on dripping rocks at Usgoed-Eynon Garn, South Wales, in May 1803.

The stems grow entangled, forming intricate tufts or patches, and almost prostrate. They are thread-shaped, branched, leafy. Leaves alternate, without stipulæ or any appendages, loosely imbricated, all curved upwards, roundish, concave, finely reticulated, of a pale brownish green, their margins entire, their points deeply cloven, elongated, acute, and (except the uppermost) incurved. Sheath, or female calyx, tubular, reticulated, irregularly torn at the margin. Fruitstalk about half an inch high, whitish and tender. Capsule dark brown, splitting into 4 acute valves, as in other species.

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May 1. 1804. Published by Jas. Sowerby, Lond.a.

LICHEN salicinus.

Saffron-coloured Willow Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust granulated, whitish lemon-coloured. Shields sessile, rather convex, orange-coloured, with a yellow waved border.

SYN. Lichen salicinus. *Schrad. Spicil.* 82. *Achar. Prod.* 43.
Lecidea aurantiaca. *Achar. Meth.* 69.
Patellaria salicina. *Hoffm. Pl. Lich. t.* 61. *f.* 3—9.

OUR oldest specimens of this Lichen were gathered on trees about Edinburgh in 1782. Mr. Sowerby finds it abundantly on willows at Kennington; Mr. Borrer on ash trees in Sussex; and Mr. Turner, to whom we are obliged for specimens, on the same kind of tree at Haddiscoe, Suffolk. Indeed we believe it to be not very rare.

The crust is thin, granulated, and cracked, easily discernible by its colour, which looks as if it had, though originally white or greyish, been stained with lemon peel, or a weak tincture of saffron. The whole plant when moist smells strongly of saffron, even after it has long been kept in a herbarium; by which it is easily recognized. The shields are pretty numerous, mostly small, sessile, with a deep orange-coloured flattish disk, at length a little convex, and a thickish, tolerably even, not waved, border of a lemon hue.

All the above synonyms we have determined by original specimens from the authors themselves. This Lichen has been taken for the *aurantiacus* of Lightfoot, whose description, however, much better agrees with *ferrugineus* of Hudson. It does not seem exactly the *aurantiacus* of Ehrhart, *Crypt.* 28. It may be *flavo-rubescens* of Hudson, but that cannot easily be determined. In this confusion we have preferred the name of one faithful writer at least, though we should rather have called it *crocinus*.

LICHEN sulcinus.

Sulphur-coloured Wilms Lichen.

May 1. 1804. Published by Jas. Sowerby, London.

FUCUS palmatus.

Red Palmate Fucus, or Dulse.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond membranous, palmate, smooth on both sides: its segments oblong and nearly simple.

SYN. Fucus palmatus. *Linn. Sp. Pl.* 1630. *Gooden. & Woodw. Tr. of Linn. Soc. v.* 3. 163. *Turn. Syn.* 175. *Huds.* 579. *Hull.* 321. *Lightf.* 933. *t.* 27.
F. membranaceus ceranoides. *Raii Syn.* 46.
Ulva palmata. *With. v.* 4. 123.

NOT uncommon on the sea coast, particularly the western parts of Scotland; nor is it less frequent in Wales and the west and south of England.

From a small callous disk spring one or more fronds, of a dull brownish crimson uniform hue, which from a taper wedge-shaped base are dilated into a broad flat form, soon cloven and divided in a palmate manner. The segments are oblong, entire at the margin, rather obtuse and often cloven at the tip. Sometimes a variety occurs fringed in a proliferous manner with small oblong or elliptical leaflets. The whole frond is about a span high; the substance membranous, or somewhat coriaceous, without rib or vein. The seeds are described as lodged in gaping tubercles scattered on the surface; and from Dr. Goodenough and Mr. Woodward having described the seeds as sometimes dispersed over the whole frond, Dr. Withering was induced to remove this sea-weed to the *Ulvæ*.

It is eaten, as well as that in our following plate, by the Irish and Scotch in various ways, and called Dulse or Dulish. In Edinburgh it is sold in the markets, and eaten raw an hour or two before dinner.

FUCUS palmatus.

Red Palmate Fucus, or Dulse.

GEN. CHAR. Seeds produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond membranous, palmate, smooth on both sides: its segments oblong and nearly simple.

Syst. Fucus palmatus. Linn. Sp. Pl. 1630. Gooden. & Woodw. Tr. of Linn. Soc. v. 3. 169. Turn. Syn. 176. Huds. 579. Hall. 321. Light. 983. t. 27.

F. membranaceus cornucopiæ. Ran. Syn. 46.

Ulva palmata. Wulf. n. 4. 425.

NOT uncommon on the sea coast, particularly the western parts of Scotland; nor is it less frequent in Wales and the west and south of England.

From a small callous disk spring one or more fronds, of a dull brownish crimson or olive hue, which form a taper wedge-shaped base and dilated into a broad flat form, soon cloven and divided in a palmate manner. The segments are oblong, entire at the margin, rather obtuse and often cloven at the tip. Sometimes a variety occurs fringed in a prolix manner with subdichotomy or elliptical leaflets. The whole frond is about a span high; the substance membranous, or somewhat coriaceous, without rib or vein. The seeds are described as lodged in grumy tubercles scattered on the surface; and from Dr. Goodenough and Mr. Woodward having described the seeds as sometimes dispersed over the whole frond, Dr. Withering was induced to remove this sea-weed to the Ulvæ.

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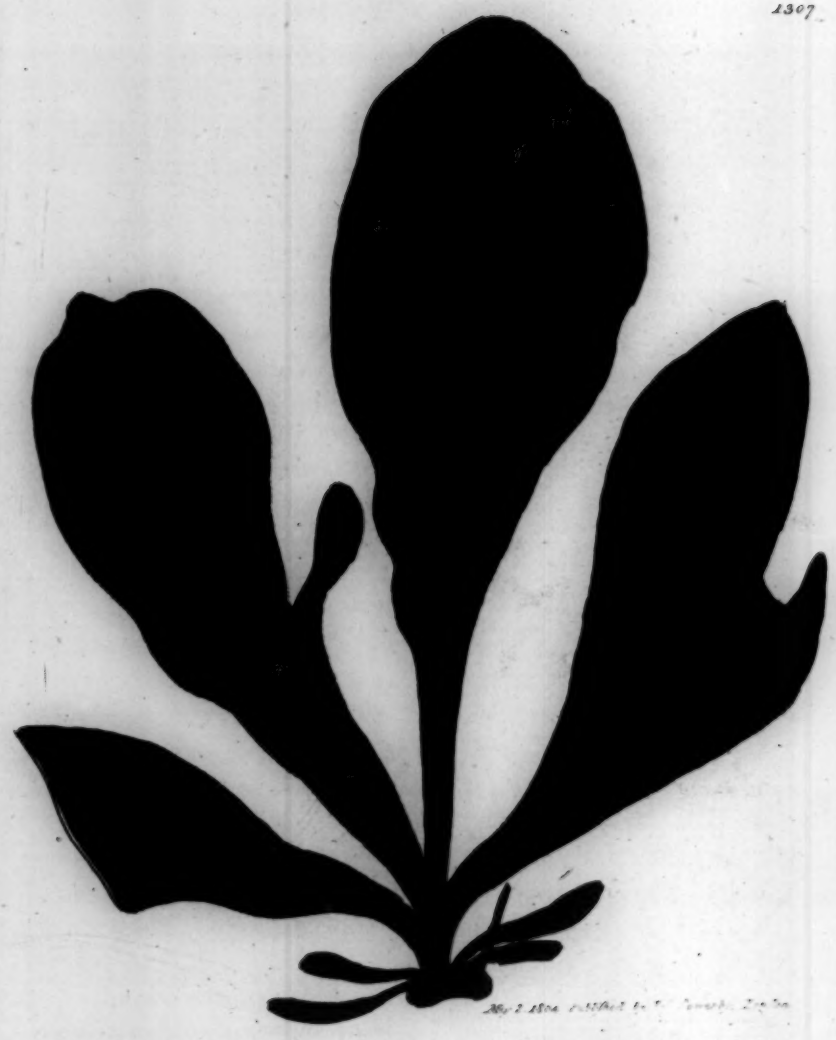

FUCUS edulis.

Red Leathery Fucus, or Dulse.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond leathery, wedge-shaped, nearly undivided, smooth on both sides, rounded at the summit, entire at the margin.

SYN. Fucus edulis. *Turn. Syn.* 180. *With. v.* 4. 101. *Hull.* 329. *Stackh. t.* 12.

F. palmatus β. *Lightf.* 935.

F. scoticus latissimus edulis dulcis. *Raii Syn.* 46.

MR. TURNER has received this from Dover, Cornwall, and North Wales. We have collected it on the Leith shore; but it is less frequent there than the *palmatus*, which last we can confidently assert to be the species most commonly eaten raw at Edinburgh, however preferable that now before us may be for culinary purposes, on account of its more fleshy texture and abundant mucilage.

It differs from the preceding in being thicker and more coriaceous, consequently of a darker hue when held against the light; but is more particularly distinguished by its obovate obtuse undivided form, scarcely cloven or lobed, by no means palmate. Old specimens are often very large, a foot or more in length and several inches wide, and they are generally found perforated, or eaten away, as it should seem, by marine animals.

When moistened after having been dried this species more particularly exhales a violet scent, in which, as well as in colour, it shows an affinity to *Byssus Iolithus* of Linnæus, and indeed to our *B. purpurea*, *v.* 3. *t.* 192.

FUCUS edulis.

Red Leathery Fucus, or Dulse.

CRYPTOGAMIA Algæ.

Gen. Char. Seeds produced in clustered tubercles, which burst at their summits.

Spec. Char. Frond leathery, wedge-shaped, nearly undivided, smooth on both sides, rounded at the summit, entire at the margin.

Syn. Fucus edulis. Turn. Syn. Hist. 4. 190.
Huds. 599. Stack. t. 19.
F. palmatus β. Lightf. 982.
F. scorzonæ latissimæ edulis dulcis. Raii Syn. 46.

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May 1. 1804. Published by Jas Sowerby, London.

FUCUS plumosus.

Feathery Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond rather cartilaginous, repeatedly branched; the branches doubly pinnate: the ultimate segments opposite, awlshaped, tipped with fruit. Tubercles four-cleft when ripe.

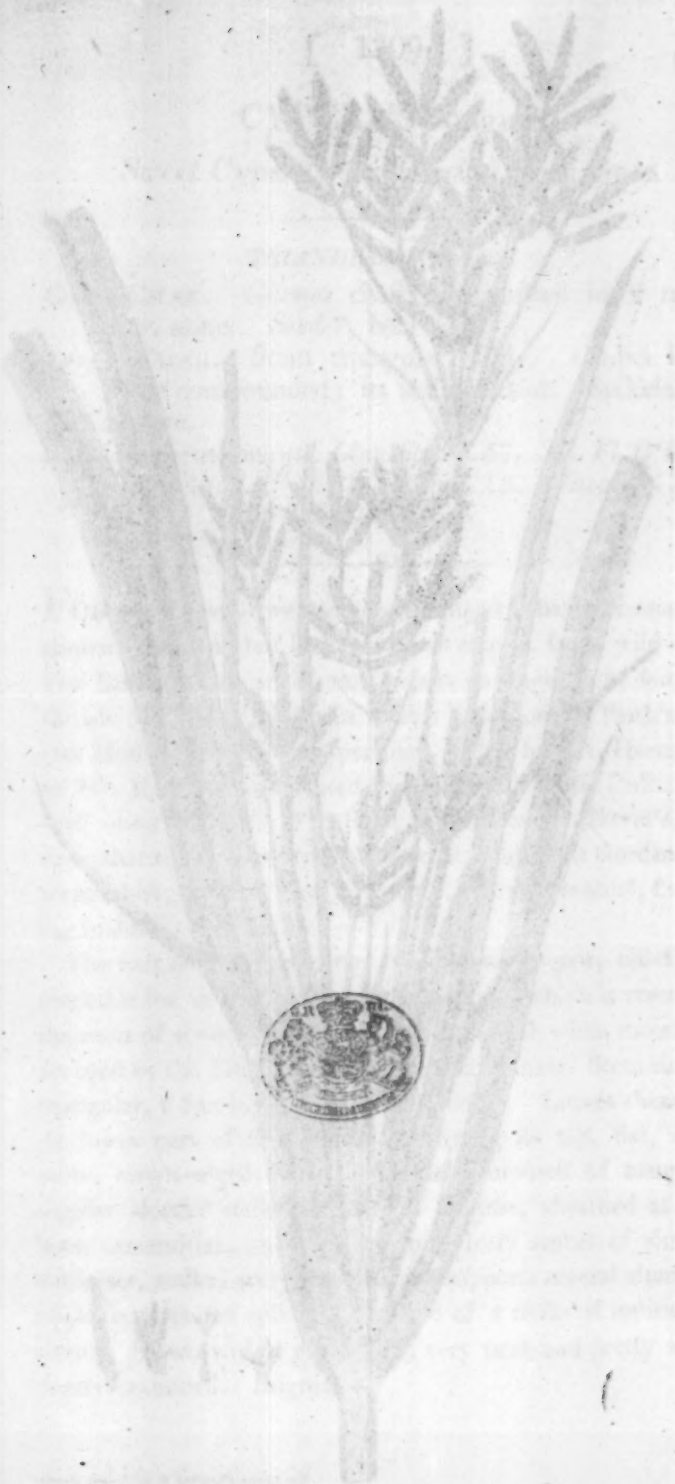
SYN. Fucus plumosus. *Linn. Mant.* 134. *Gooden. & Woodw. Tr. of Linn. Soc. v.* 3. 188. *Turn. Syn.* 296. *Huds.* 587. *With. v.* 4. 120. *Hull.* 324. *Lightf.* 955. *Stackh. t.* 15.

Fucoides purpureum eleganter plumosum. *Dill. in Raii Syn.* 38. *t.* 2. *f.* 5.

ONE of the most elegant of our submarine plants is the *Fucus plumosus*, which is found occasionally on various parts of the British coast, bearing its fructification in summer or autumn.

The frond rises from a small convex callous disk to the height of from 3 to 6 inches. The main stem is linear, narrow, compressed, irregularly branched and subdivided, finely pectinated with compound pectinated branches. The minute ultimate subdivisions are setaceous, compressed, opposite, a few of them here and there tipped with a solitary round small capsule. Capsules are also more regularly placed, in an alternate order, each on a short footstalk opposite to the main subdivisions of each branch. They are remarkable, as Mr. Turner observes, for splitting into 4 or 5 segments when ripe, instead of falling off with their seeds as in most species. Mr. Sowerby has observed transverse undulations in the branches, resembling the articulations of a *Conferva*; which justifies Gmelin's description. See Turner's *Synopsis* 300.

The colour of the fresh branches is a beautiful pink or light crimson; of the older parts a purplish brown or black. The plant is perennial; its substance membranous approaching to cartilaginous.



May 1.1804. Published by Jas. Sowerby, London.

CYPERUS longus.

Sweet Cyperus, or English Galingale.

TRIANDRIA Monogynia.

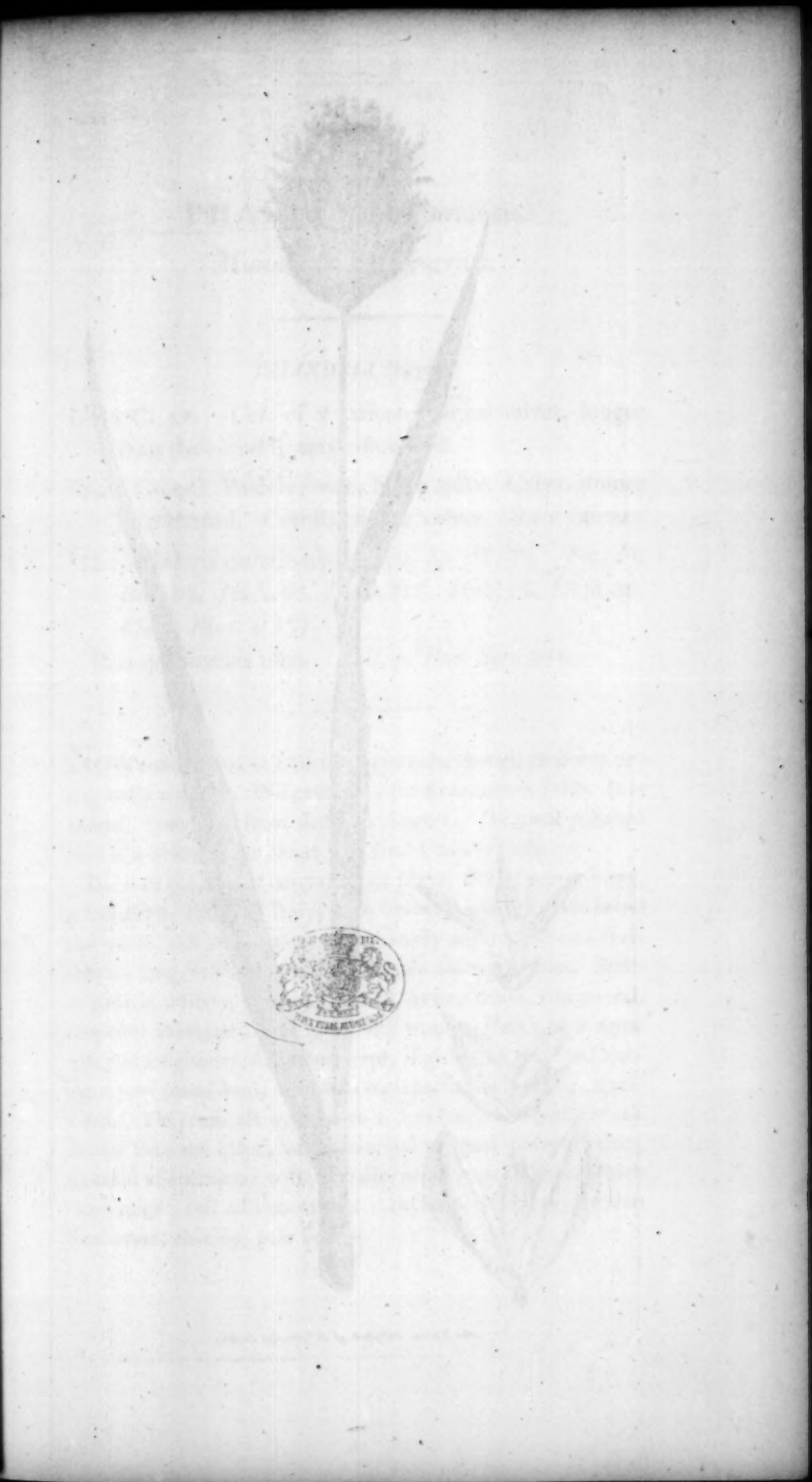
GEN. CHAR. *Glumes* chaffy, imbricated in 2 ranks. *Cor.* none. *Seed* 1, beardless.

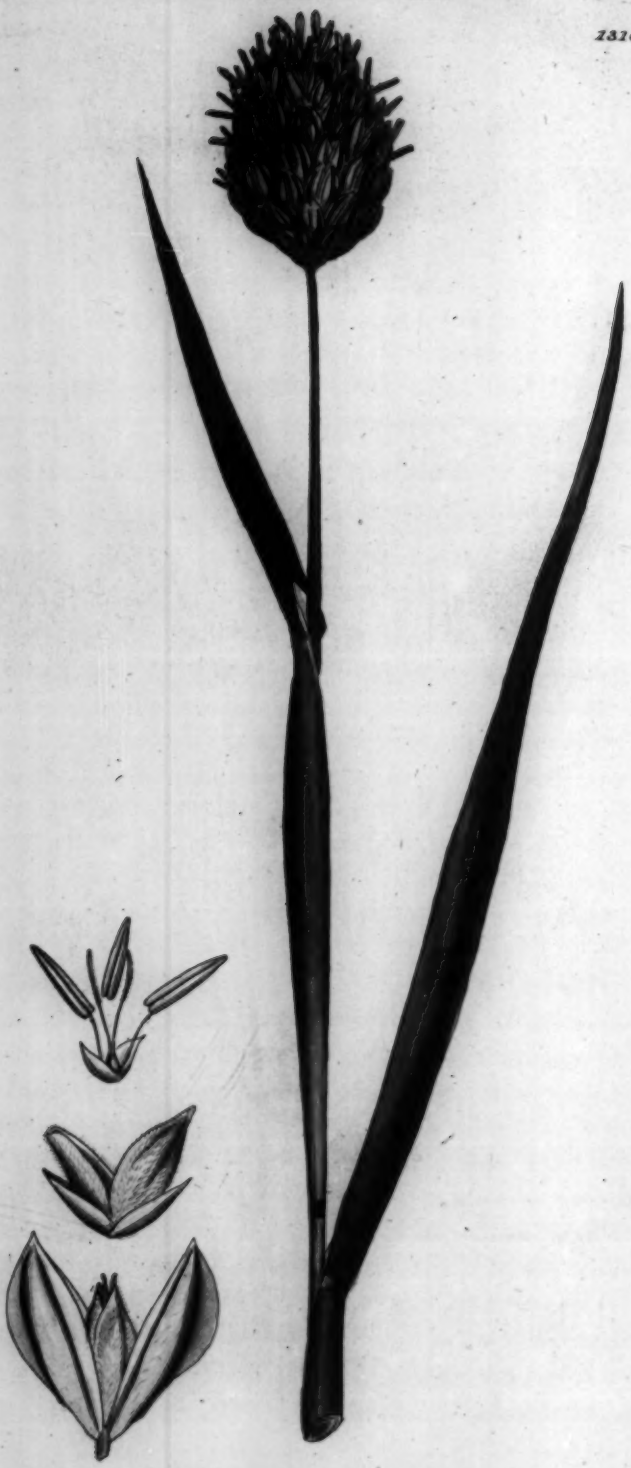
SPEC. CHAR. Stem triangular, leafy. Umbel leafy, twice compounded; its stalks naked. Spikelets alternate.

SYN. Cyperus longus. *Linn. Sp. Pl.* 67. *Sm. Fl. Brit.* 47. *Huds.* 17. *With.* 79. *Hull.* 13. *Jacq. Ic. Rar. t.* 297. *Raii Syn.* 425.

FOR this *Cyperus* we have been obliged to have recourse to a garden specimen, but it differs in no respect from wild ones. Few British plants are so rare. It is no longer to be found in the isle of Purbeck, nor was it ever found on St. Faith's bogs (see Hudson); a garden specimen, given by Mr. Humphrey to Mr. Rose, having caused the mistake. Sir J. Cullum indeed observed it in 1775 by a rivulet near St. David's, and since that time it has been gathered at Walton in Gordan, Somersetshire, by Mr. Dyer of Bristol. It is perennial, flowering in July.

The root is long, creeping, twisted, astringent, chiefly remarkable for an agreeable spicy odour, in which it resembles the roots of some East Indian grasses, which when moistened are used by the English to perfume their houses. Stem simple, triangular, 2 feet high, with smooth edges. Leaves sheathing the lower part of the stem and crowning its top, flat, long, acute, rough-edged, keeled. Umbel composed of many triangular slender stalks, of various lengths, sheathed at their lower extremities, and each bearing a leafy umbel of similar, but lesser, stalks, every one of which supports several alternate, linear, compressed spikelets, formed of 2 ranks of imbricated glumes, brown with a green keel, very neat and pretty when closely examined. Stigmas 3.





May 1. 1804. Published by Jas Sowerby, London.

PHALARIS canariensis.

Manured Canary-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 carinated equal valves, longer than the *corolla*, single-flowered.

SPEC. CHAR. Panicle ovate, like a spike. Calyx-glumes boat-shaped. Corolla of four valves. Root fibrous.

SYN. Phalaris canariensis. *Linn. Sp. Pl.* 79. *Sm. Fl. Brit.* 62. *Huds.* 23. *With.* 113. *Hull.* 15. *Sibth.* 33. *Mart. Rust. t.* 17.

P. major semine albo. *Dill. in Raii Syn.* 394.

NOW naturalized in cultivated grounds, though probably not originally a native. We gathered it in Kennington fields. It is annual, flowering from June to August. Its small polished seed is well known to those who feed Canary-birds.

The root consists of several white fibres. Stems one or more, 2 feet high, striated, leafy, with brown joints. Leaves broad and acute, soft and pliable, with scarcely any roughness: their sheaths long, inflated, striated. Stipula oblong, obtuse. Spike or panicle solitary, terminal, erect, ovate, dense, compound, elegantly variegated with green and white. Calyx of 2 equal compressed glumes, dilated upward, slightly pointed, and having a very broad keel, which in our specimens is always undivided. They are all over more or less hairy. Corolla much shorter than the calyx, of 2 principal unequal downy valves, invested at their base with 2 smaller acute smooth ones, which some might call an inner calyx. Styles and Stigmas slender. Seed ovate, shining, pale yellow.

May 1. 1804. Published by Jas. Sowerby, London.

SCABIOSA columbaria.

Small Scabious.

TETRANDRIA Monogynia.

GEN. CHAR. *General Calyx* of many leaves; *partial* double, superior. *Receptacle* chaffy or naked.

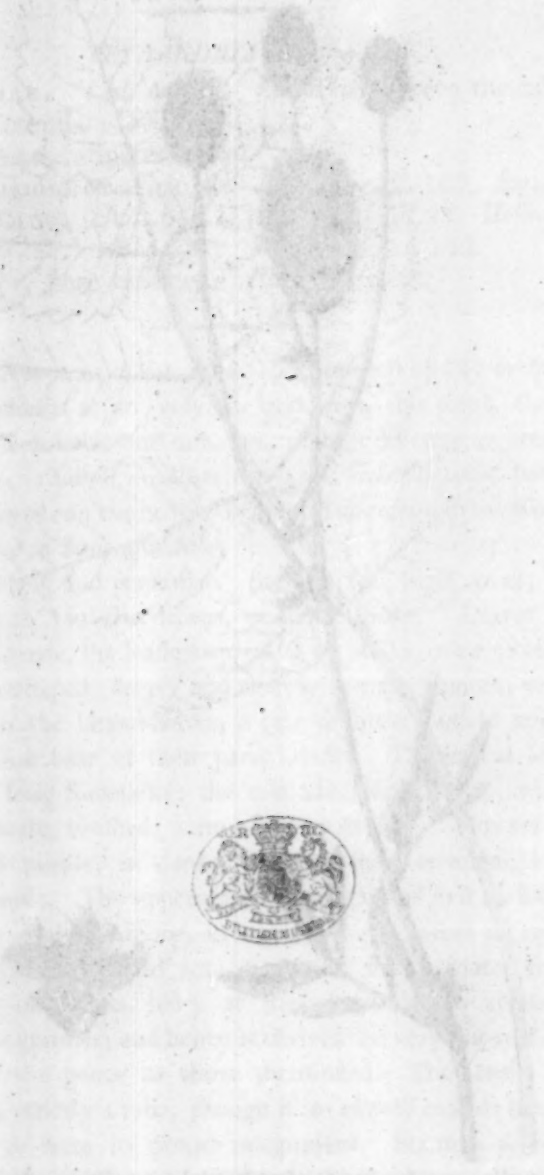
SPEC. CHAR. Corollas five-cleft, irregular. Radical leaves ovate or lyrate, crenate; the rest pinnatifid, with linear segments.

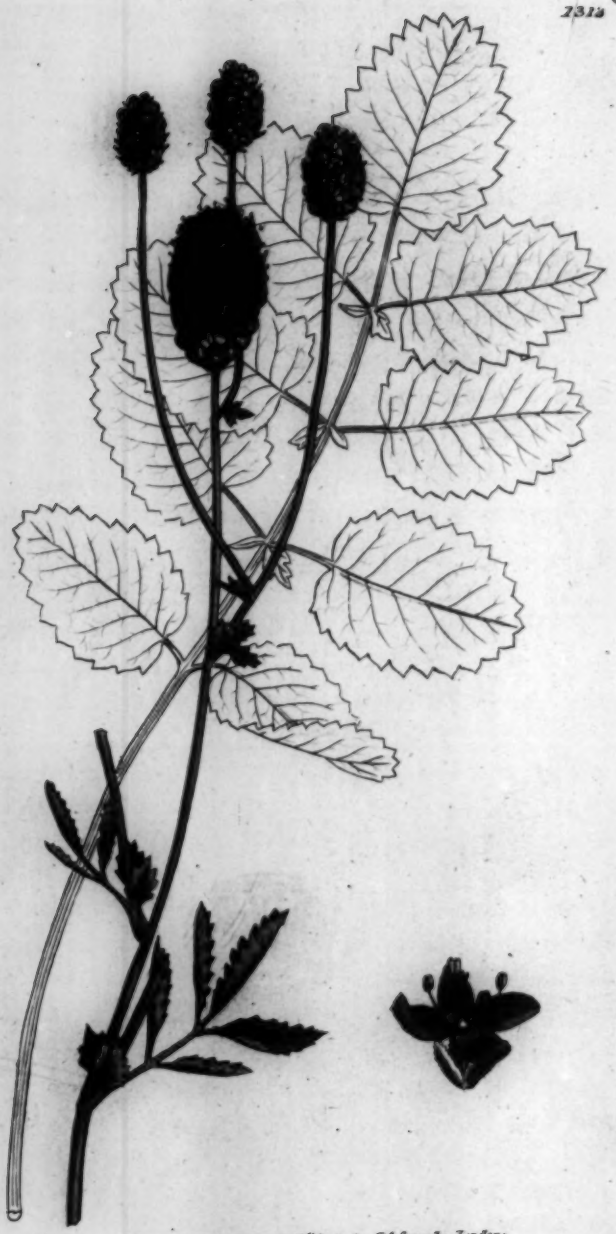
SYN. Scabiosa columbaria. *Linn. Sp. Pl.* 143. *Sm. Fl. Brit.* 171. *Huds.* 62. *With.* 184. *Hull.* 33. *Relh.* 53. *Sibth.* 55. *Abbot.* 30. *Fl. Dan. t.* 314.

S. minor vulgaris. *Raii Syn.* 191.

PECULIAR to chalk, limestone or gravelly countries, but there not uncommon, flowering from June to August. It grows about the walls of Norwich, and we have received it from Yorkshire and Devonshire.

Root perennial, woody, tufted. Plant smaller and more slender than the *S. arvensis*. Stem 12 or 18 inches high, erect, round, leafy, hairy, a little branched in the upper part. Leaves hairy; the lowermost ovate or lyrate, crenate and cut, on longish footstalks; the rest sessile, simply or doubly pinnatifid, their segments linear, sharp and entire. Flowers terminal on long naked stalks, light purple. The marginal florets particularly large and radiant, and all the florets five-cleft, by which it is clearly distinguished from our other species. The stamina however, as far as we have been able to discover, are never more than four, though five are represented in the *Flora Danica*. The outer partial calyx becomes a small ribbed crenate membranous ruffle; the inner consists of 5 brown bristles, as long as the corolla.





May 1. 1804. Published by Jas. Sowerby, London.

SANGUISORBA officinalis.
Great Burnet.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-cleft. *Germen* between the calyx and corolla. *Seed* 1.

SPEC. CHAR. Spikes ovate.

SYN. Sanguisorba officinalis. *Linn. Sp. Pl.* 169. *Sm. Fl. Brit.*186. *Huds.*65. *With.*199. *Hull.*35. *Relh.*61. *Sibth.* 57. *Abbot.* 31. *Mart. Rust. t.* 142.
S. major, flore spadiceo. *Raii Syn.* 203.

AS the *Poterium*, *v.* 12. *t.* 860. prefers such chalky or limestone situations as are very dry and open, this plant, closely allied to it in habit and qualities, though different in botanic characters, is found in rather moist and rich pastures, but always in limestone countries. It is most abundant in the North, and flowers in June and July.

Root strong and perennial. Stem 2 feet high, erect, furrowed, with but few leaves, panicled above. Leaves unequally pinnate, the leaflets opposite, on stalks, ovate or somewhat heartshaped, deeply and sharply crenate, smooth, veiny, having, in the larger leaves, a pair of little toothed appendages at the base of their partial stalks. The radical leaves stand on long footstalks; the rest are nearly sessile, with a pair of lunate, toothed, stem-clasping stipulæ. Flowers of a dark dull purple, in dense, ovate, obtuse, terminal, long-stalked heads. The uppermost flowers expand first; which is singular. Calyx inferior, in 4 green, ovate, acute segments. Corolla deeply divided into 4 purple, ovate, acute, equal, spreading segments, hairy at their base, which appear to crown the germen; and hence is derived the very unusual character of the genus as above mentioned. The corolla has, however, strictly a tube, though it so closely enfolds the germen as to seem its proper integument. Stamina 4, equal. Style simple, with a 4-cleft stigma. Seed solitary, elliptical.

May 1. 1810. Published by Jas Sowerby, London.

BUFFONIA tenuifolia.

Slender Buffonia.

TETRANDRIA Digynia.

GEN. CHAR. *Cal.* of 4 leaves. *Petals* 4. *Capsule* of 1 cell and 2 valves, with 2 *seeds.*

SPEC. CHAR.....

SYN. Buffonia tenuifolia. *With.* 205. *Sm. Fl. Brit.* 191.

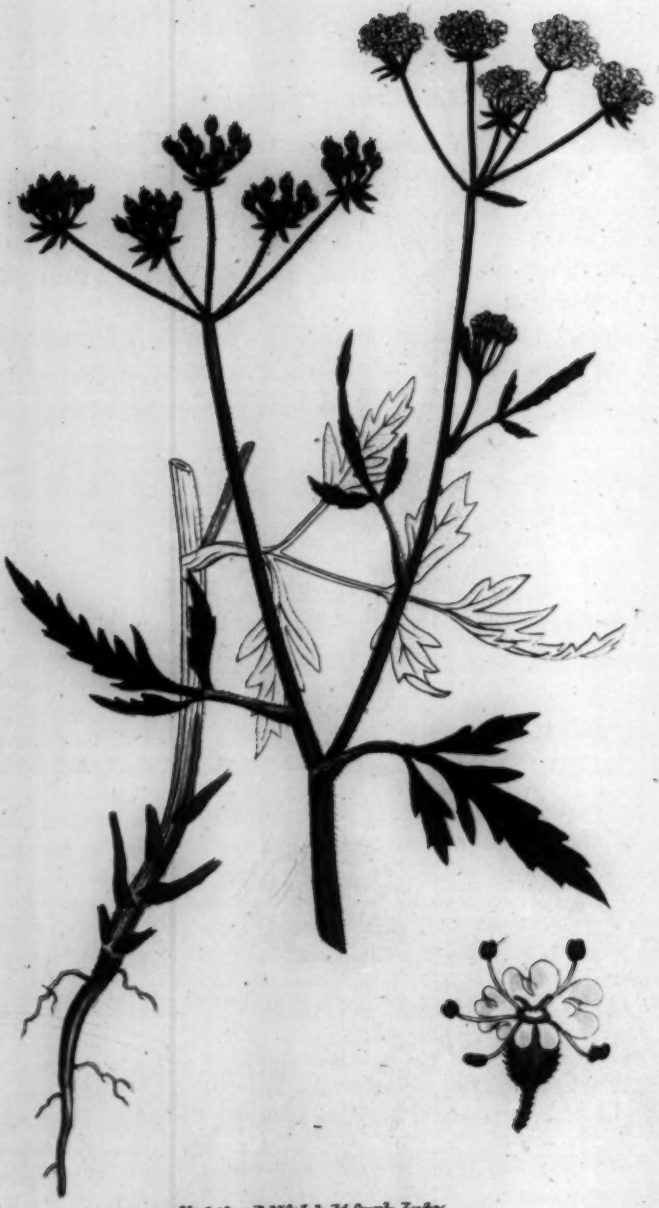
Bufonia tenuifolia. *Linn. Sp. Pl.* 179. *Huds.* 72. *Hull.* 38.

Alsine polygonoides tenuifolia, flosculis ad longitudinem caulis velut in spicam dispositis nostra. *Raii Syn.* 346. *Pluk. Phyt. t.* 75. *f.* 3.

THE plant here delineated from a garden specimen is introduced to remove, if possible, the doubts respecting it as a native of Britain, for which Plukenet is the original authority. He has certainly figured the real *Buffonia*, and asserts its being found by the sea side about Boston, Lincolnshire. Ray relied on him, but no succeeding botanist has found it. Sir J. Banks suspects that *Bupleurum tenuissimum* might have been mistaken for it; see *t.* 478. Doody is said to have gathered the plant in question on Hounslow Heath; but there it has equally been sought in vain since his time. Boston is the most likely place. We recommend the search to all our maritime botanists.

It is annual, flowering in June. Habit much like an *Arenaria*. Stems 1 or more, erect, branched, round, leafy, smooth. Leaves erect, opposite, awlshaped, 3-ribbed, with a broad sheathing base. Flowers on roughish stalks, upright, small, white. Calyx-leaves lanceolate, striated, with a white edge. Petals obtuse, undivided, shorter than the calyx. Stamina equal. Germen superior, obovate, with 2 very short distant styles, and capitate stigmas. Capsule of 2 flattish valves, containing 2 large rough seeds.

This is a very distinct genus. Linnæus named it, at the suggestion of Sauvages, after the celebrated Buffon, but is thought to have applied the specific name *tenuifolia* to express the *slenderness* of the great zoologist's claim to a botanical honour, and also to have rather maliciously dropped one *f* in the generic name. The latter idea has been confirmed by the authors of the Botanical Arrangement, who call it *Toad-grass.*



May 1.1804. Published by Jas. Sowerby, London.

CAUCALIS infesta.

Spreading Hedge Parsley.

PENTANDRIA Digynia.

GEN. CHAR. *Involucra* general and partial, undivided. *Corollæ* radiate. *Flowers* of the centre male. *Fruit* nearly oval, striated, rough with rigid bristles.

SPEC. CHAR. Umbels of many close rays. General involucrum little or none. Leaflets pinnatifid. Branches spreading.

SYN. Caucalis infesta. *Curt. Lond. fasc.* 6. *t.* 23. *Sm. Fl. Brit.* 299. *Relh.* 108.

C. arvensis. *Huds.* 113. *With.* 288. *Hull.* 59. *Sibth.* 92. *Abbot.* 58.

C. segetum minor, Anthrisco hispido similis. *Raii Syn.* 220.

Scandix infesta. *Linn. Syst. Nat. ed.* 12. *v.* 2. 732.

THIS is closely allied to the *Caucalis Anthriscus*, *t.* 987, and, like that, is most unquestionably a *Caucalis*. It is very common in fields and by way sides, flowering in July, and the seeds are widely dispersed by adhering to the coats of animals, or any thing else that comes in their way.

Root annual, tapering. Stem a foot or two in height, erect, leafy, round, furrowed, rough, dividing into numerous alternate divaricating branches. Leaves alternate, pinnate, deeply cut and sometimes almost bipinnate, rough; the terminal leaflet elongated. Umbels terminal, erect, of numerous close rays. General involucrum either of 1 simple leaf, or entirely wanting; partial of several sharp rough leaves. Flowers somewhat radiant, white, cream-coloured, or rarely flesh-coloured. *Antheræ* yellowish or purple. Fruit larger than in *C. Anthriscus*, ovate, rough, green or reddish, but not tipped with purple. The most certain distinction of this species is the want of a many-leaved involucrum, and also the divaricated branches.

CAUCALIS infesta.

Spreading Hedge Parsley.

PENTANDRIA Digynia.

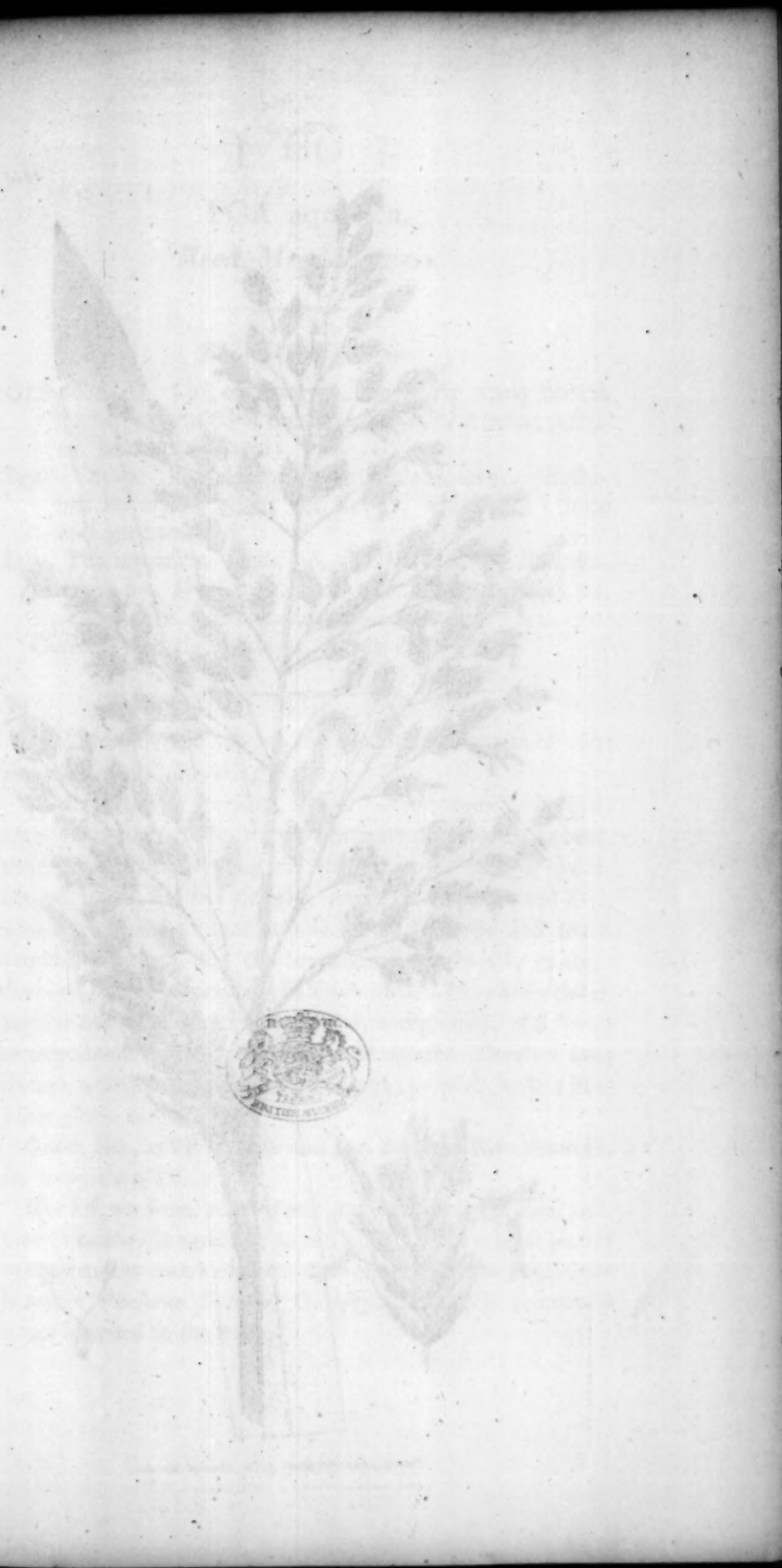
Gen. Char. Involucre general and partial, undivided.
Corolle radiate. Fruit of the centre male. Fruit nearly oval, striated, rough with rigid bristles.

Spec. Char. Umbels of many close rays. General involucrum little or none. Leaves pinnatifid. Branches spreading.

Syn. Caucalis infesta. Curt. Lond. Fasc. 6. t. 23. Sm. Fl. Brit. 309. Relh. 105.
C. arvensis. Huds. 118. With. 335. Hull. 59. Sibth. 91. Abbot. 38.
C. segetum minor, Anthrisco bispido similis. Ray. Syn. 220.
Scandix infesta. Linn. Syst. Veg. ed. 12. v. 2. 732.

THIS is closely allied to the Caucalis Anthriscus, t. 907, and, like that, is most unpleasantly a Caucalis. It is very common in fields and by way sides, flowering in July, and the seeds are widely dispersed by adhering to the coats of animals, or any thing else that comes in their way.

Root annual, tapering. Stem a foot or two in height, erect, leafy, round, furrowed, rough, dividing into numerous alternate divaricating branches. Leaves alternate, pinnate, deeply cut and sometimes almost bipinnate, rough; the terminal leaflet elongated. Umbels terminal, erect, of numerous close rays. General involucrum either of 1 simple leaf, or entirely wanting; partial of several sharp rough leaves. Flowers somewhat radiant, white, cream-coloured, or rarely flesh-coloured, sometimes yellowish or purple. Fruit larger than in C. daucoides, ovate, rough, green or reddish, but not tipped with purple. The most certain distinction of this species is the want of a many-leaved involucrum, and also the divaricated branches.



June 1. 1804. Published by Jas. Sowerby, London.

POA aquatica.

Reed Meadow-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing many florets. *Spikelet* rounded at the base. *Cor.* of 2 ovate, pointed, beardless valves.

SPEC. CHAR. Panicle upright, branched, loose. Spikelets linear, of about six florets, which are obtuse and seven-ribbed.

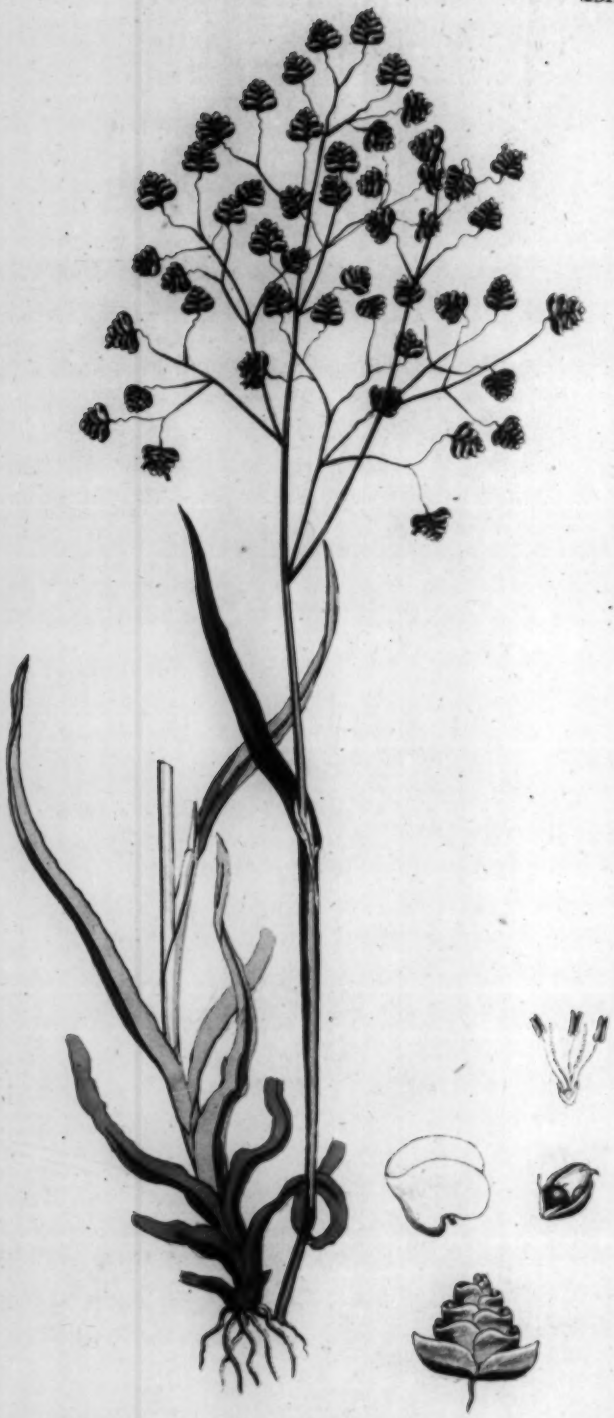
SYN. Poa aquatica. *Linn. Sp. Pl.* 98. *Sm. Fl. Brit.* 95. *Huds.* 38. *With.* 140. *Hull.* 21. *Relh.* 32. *Sibth.* 41. *Abbot.* 17. *Curt. Lond. fasc.* 5. *t.* 12.
Gramen aquaticum majus. *Raii Syn.* 411.

VERY common in ditches and about the margins of clear rivers and pools, flowering in July.

Root perennial, creeping, white. Stems several, upright, often 6 feet high, leafy, a little compressed, smooth, striated, their lower joints throwing out whorled roots. Leaves sword-shaped, broad, flat and straight, rough on the edges and keel, with a very short blunt stipula. Panicle large and much branched, upright, but the branches spread loosely in every direction, being alternately half whorled. They are slender, angular and rough. Spikelets linear, compressed, of 6 florets or thereabouts. Calyx-glumes nearly equal. Florets a little remote, nearly cylindrical, obtuse, rough, purplish, with 7 ribs. Inner glume notched.

Sometimes, as Mr. Davies and Mr. Sowerby have observed, the flowers are viviparous.

It is known from most of our grasses by its great size, and, though coarse, is agreeable to cattle. It makes a great part of the hay in low marshy lands. The chrysalis of the exquisitely beautiful *Phalæna festucæ*, Gold-spot Moth, is sometimes found attached to the leaves.



June 1. 1804. Published by Jas. Sowerby, London.

BRIZA minor.

Small Quaking-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing many florets. *Spikelet* 2-ranked. *Cor.* of 2 heart-shaped, obtuse valves. *Seed* depressed, attached to the corolla.

SPEC. CHAR. Spikelets triangular, of seven florets, which are shorter than the calyx. Stipula lanceolate, very long.

SYN. Briza minor. *Linn. Sp. Pl.* 102. *Sm. Fl. Brit.* 108. *Huds.* 38. *With.* 148. *Hull.* 23. *Dicks. H. Sicc. fasc.* 5. 3.

Gramen tremulum minus, paniculâ amplâ, loculstis parvis triangulis. *Raii Syn.* 412.

OUR wild specimen represented in the plate was sent from Pensance by favour of Mr. Penneck.

This is one of our rarest grasses, found only in fields near the south-west extremity of Britain and in Guernsey. In the south of Europe it occurs frequently, and is annual, flowering in July.

Root of several small downy fibres. Stem one or more, 10 or 12 inches high, leafy, round and smooth. Whole plant of a light green. Leaves lanceolate, erect, rough-edged, with very long, somewhat inflated, sheaths. Stipula membranous and thin, remarkably long, acute, decurrent. Panicle elegantly divaricated, very delicate, bearing numerous triangular spikelets, which are prettily variegated with green, white, and sometimes purple, and tremulous from the extreme slenderness of the little zigzag rigid stalks. Calyx protruding much beyond the florets, its valves nearly equal, obtuse, boat-shaped, smooth, with membranous edges. Florets like them, but shorter, much more gibbous, and lopped at the point. Inner glume notched, flattish. Nectary deeply cloven. Seed orbicular, depressed, when ripe firmly adhering to the outer valve of the corolla.

BRIZA minor.

Small Quaking-grass.

GEN. CHAR. Cal. of 2 valves, containing many florets.

Spikelet ovate. Cor. of 2 heart-shaped, obtuse valves. Seed depressed, attached to the corolla.

SPEC. CHAR. Spikelets triangular, of seven florets, which are shorter than the calyx. Stipule lanceolate, very long.

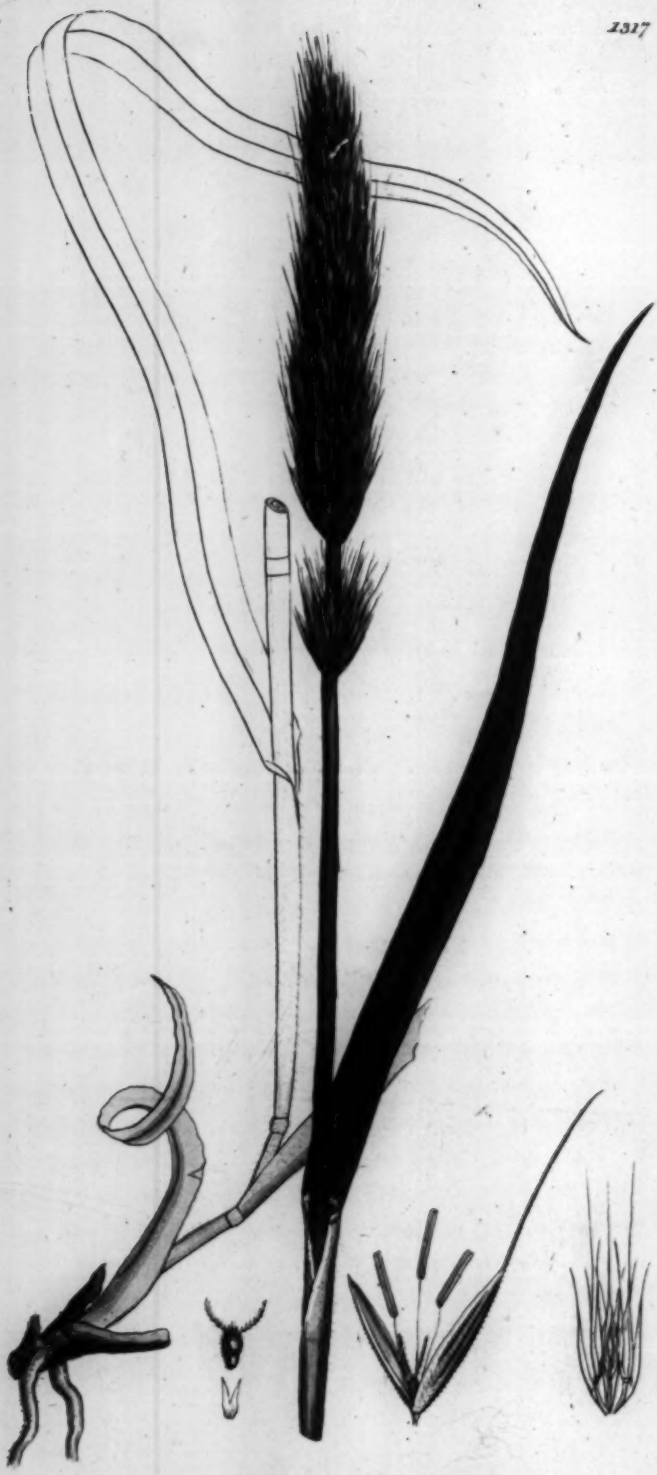
Syn. Briza minor. Linn. Sp. Pl. 102. Sm. Fl. Brit. 108. Huds. 35. With. 144. Hull. 23. Dicks. H. Sicc. fasc. 5. 3.

Cranen tremulam minus, panicula ampla, locustis parvis triangulis. Raii Syn. 415.

OUR wild specimen represented in the plate was sent from Penrance by favour of Mr. Pennock.

This is one of our rarest grasses, found only in fields near the south-west extremity of Britain and in Guernsey. In the south of Europe it occurs frequently, and is annual, flowering in July.

Root of several small downy fibres. Stem one or more, 10 or 12 inches high, leafy, round and smooth. Whole plant of a light green. Leaves lanceolate, erect, rough-edged, with very long, somewhat inflated, sheaths. Stipule membranous and thin, remarkably long, acute, decurrent. Panicle elegantly ramified, very delicate, bearing numerous triangular spikelets, which are prettily variegated with green, white, and sometimes purple, and trembling from the extreme slenderness of the little zigzag rigid stalks. Calyx protruding much beyond the florets, its valves nearly equal, ovate, boat-shaped, smooth, with membranous edges. Florets like them, but shorter, much more ribbonly and topped at the point. Inner valve notched, flattish. Nectary deeply cleven. Seed oblong, depressed, with ripe fruit adhering to the outer valve of the corolla.



June 1. 1804. Published by Jas Sowerby, London.

ELYMUS europæus.

Wood Lyme-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* lateral, aggregate, of 2 valves, containing (mostly) several flowers.

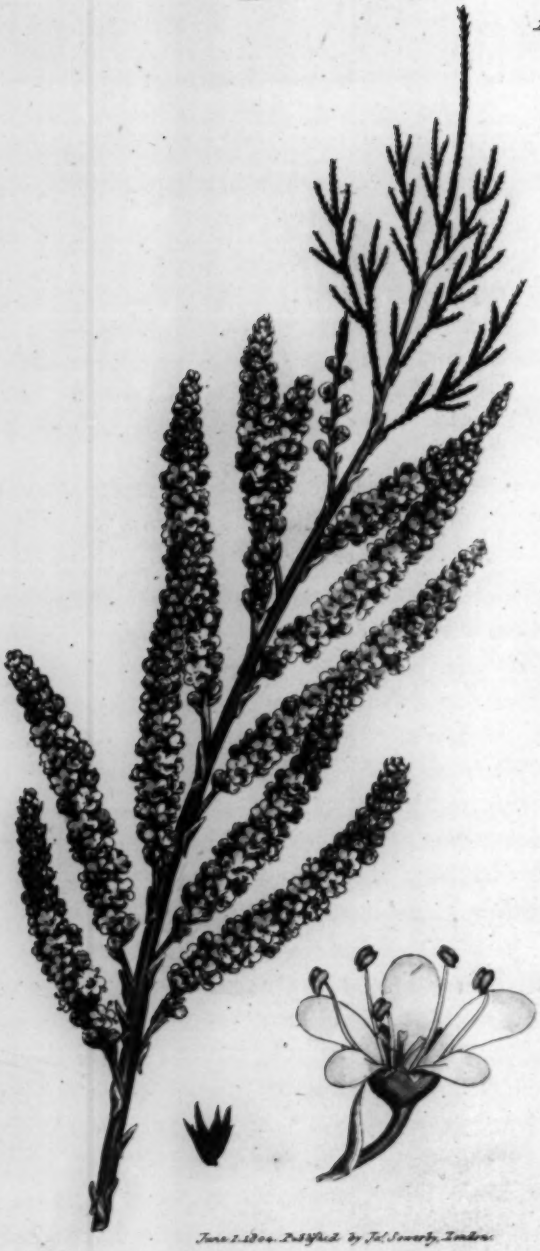
SPEC. CHAR. Spike erect. Spikelets two-flowered, bearded. Calyx without furrows.

SYN. Elymus europæus. *Linn. Mant.* 35. *Sm. Fl. Brit.* 154. *With.* 170. *Hull.* 27. *Sibth.* 51.
Hordeum sylvaticum. *Huds.* 57. *Abbot.* 27. *Mart. Rust. t.* 45.
Gramen secalinum majus sylvaticum. *Raii Syn.* 392.

A NATIVE of woods and thickets on a chalky soil. We have received it from Yorkshire and other parts of England, flowering in June.

Root perennial, fibrous, rather tufted, downy. Stems about 2 feet high, erect, straight, simple, leafy; naked, smooth and striated above. Leaves lanceolate, sharp-pointed, flat, ribbed, broadish, rough; their sheaths ribbed, more or less rough with deflexed hairs. Stipula very short, crenate. Spike erect, or a little inclining, straight, close, 2 or 3 inches long; its main stalk zigzag, angular, furrowed, rough. Spikelets in alternate parcels of 3 together, erect, each with a 2-valved, parallel, equal, linear calyx, very smooth and even at the base, angular and roughish above, tipped with a long rough awn. Florets 1, or mostly 2, on short stalks, all generally perfect and fertile, lanceolate, awned, ribbed and roughish at the summit, broader than the calyx-valves, but about as long; their inner glumes beardless. Germen downy.

This is a harsh grass, of no known use in agriculture, nor does it appear to have been attended to by any experimental farmer.



June 1.1804. Published by Jas Sowerby, London.

TAMARIX gallica.

French Tamarisk.

PENTANDRIA Trigynia.

GEN. CHAR. *Cal.* inferior, in 5 segments. *Petals* 5. *Caps.* of 1 cell, with 3 valves. *Seeds* feathery.

SPEC. CHAR. Stamina five.

SYN. Tamarix gallica. *Linn. Sp. Pl.* 386. *Sm. Fl. Brit.* 338. *With.* 318. *Sym.* 77. *Hull.* 66. *Tr. of Linn. Soc. v.* 3. 333.

Tamariscus Narbonensis. *Ger. em.* 1378.

GATHERED by Mr. Menzies at Hastings. Though not mentioned by the botanists of Ray's time, it seems entitled to a place in our Flora, being plentiful about the coasts of Cornwall, Hampshire and Sussex, growing on rocks and banks, exactly as in Italy and France, where it is undoubtedly wild. We are not deterred from admitting it by vague reports of its having been brought from France in the 17th century. It might nevertheless have been always growing wild in England, as seems to have been the case with Hops; nor was there any occasion to bring from France what had certainly long been common in our own gardens.

It is an elegant, drooping, slender-branched shrub, with red shining twigs. Leaves minute, imbricated, deciduous, rather fleshy, acute, smooth, spurred at the base. The flowers appear about July in long cylindrical clusters, with little awlshaped bracteæ. Calyx small, campanulate, smooth. Petals white or reddish. Stamina 5, smooth, equal. Germen ovate, with 3 styles, and blunt stigmas. Capsule pyramidal. Seeds numerous, with feathery wings.

Sheep are excessively fond of this shrub, perhaps on account of its saltish flavour, and devour it with avidity.

TAMARIX gallica.

French Tamarisk.

June 1. 1804. Published by J.C. Sowerby, London.

SEDUM Telephium.

Orpine.

DECANDRIA Pentagynia.

GEN. CHAR. *Cal. 5*-cleft. *Petals 5*, with *5* nectariferous scales at the base of the germen. *Capsules 5*, superior.

SPEC. CHAR. Leaves flattish, serrated. Corymbus leafy. Stem erect.

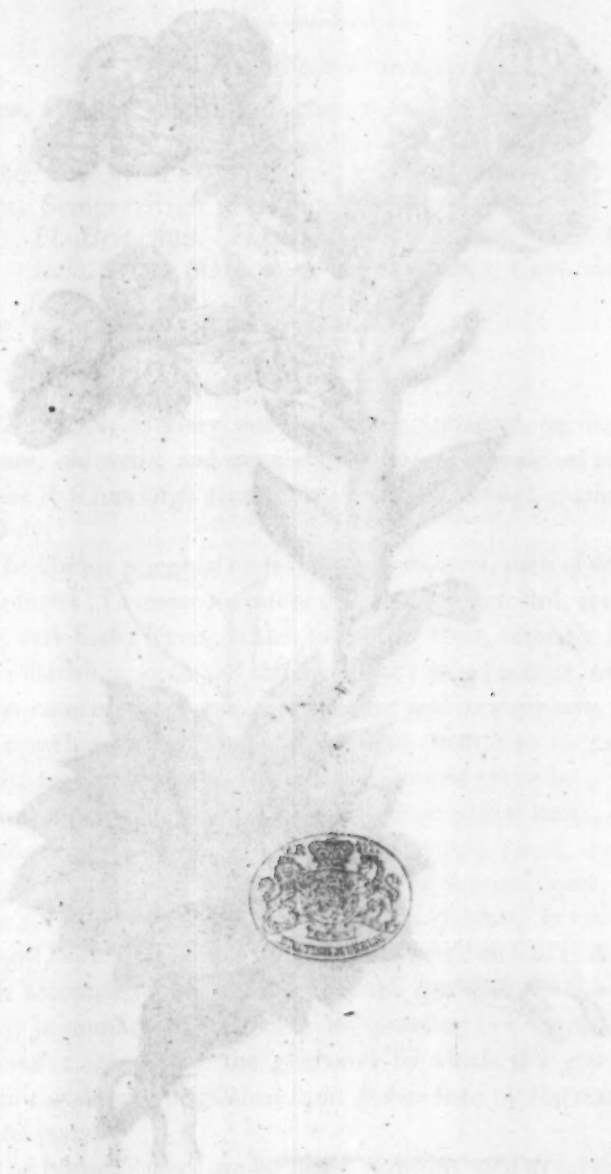
SYN. Sedum Telephium. *Linn. Sp. Pl.* 616. *Sm. Fl. Brit.* 485. *Huds.* 195. *With.* 426. *Hull.* 99. *Relh.* 173. *Sibth.* 143. *Abbot.* 98. *Curt. Lond. fasc.* 3. *t.* 25.

Anacampseros, vulgò Faba crassa. *Raii Syn.* 269.

FOUND in the borders of fields, about hedges, bushy hills, and such kinds of situations, on a gravelly or calcareous soil, flowering in August.

The root is perennial, consisting of several oblong, tapering, fleshy, white lumps, with fibres at their extremity. Stems between one and two feet high, erect, simple, very leafy, round, smooth, generally spotted with purple. Leaves irregularly scattered, sessile, ovate, fleshy, flat, bluntly serrated, smooth and somewhat glaucous, with a thick coloured rib disappearing before it reaches the summit. Flowers in dense clustered tufts, intermixed with small leaves, crimson or purple, rarely white. Petals acute. Antheras and stigmas more deeply coloured than the rest of the flower.

Like all succulent plants this is very tenacious of life, and will keep growing long after it has been torn from its native spot. The country people in Norfolk sometimes hang it up in their cottages, judging by its vigour of the health of some absent friend. Those who have ever parted from a very dear friend will sympathize with their anxiety if not with their superstition.



June 1.1804. Published by Jas Sowerby, London.

SEMPERVIVUM tectorum.

Common Houseleek.

DODECANDRIA Dodecagynia.

GEN. CHAR. *Cal.* inferior, in 12 deep segments. *Petals* 12. *Capsules* 12, with many seeds.

SPEC. CHAR. Leaves fringed. Offsets spreading.

SYN. Sempervivum tectorum. *Linn. Sp. Pl.* 664. *Sm. Fl. Brit.* 522. *Huds.* 211. *With.* 452. *Hull.* 106. *Relh.* 185. *Sibth.* 153. *Abbot.* 106. *Curt. Lond. fasc.* 3. *t.* 29.

S. majus. *Raii Syn.* 269.

COMMON, as every one must have remarked, on tiles of houses, old walls, and especially on decaying thatched roofs, where it forms large dense tufts, flowering, though sparingly, in July.

The fibrous perennial roots throw out runners, each of which terminates in a rosaceous tuft of numerous, imbricated, spreading, very fleshy leaves, which are ovate, acute, strongly fringed; flattish, smooth and shining above; paler, convex, somewhat carinated, beneath. The larger and stronger tufts produce each a strong, round, hairy, leafy stem 8 to 12 inches high, terminating in a large many-flowered corymbus, with racemose branches. Flowers on very short partial stalks, with small awlshaped bracteæ. Calyx downy and viscid, mostly tinged with brown, and divided into 12 or more linear segments. Petals agreeing with them in number, lanceolate, fringed, either rose-coloured or of a pale reddish buff. A stamen accompanies each petal, and the germens are about as many in number, with short styles spreading in a starry form. No scales accompany the germens; by which this genus is more certainly distinguished from *Sedum* than by the number of the parts.

The bruised leaves are by rustic surgeons used as a cooling external application, but their virtues are inconsiderable.

June 1.1804. Published by Jas. Sowerby, London.

CISTUS Helianthemum.

Common Dwarf Cistus.

POLYANDRIA Monogynia.

GEN. CHAR. *Cal.* of 5 leaves, 2 of which are smaller than the rest. *Petals* 5. *Caps.* superior, angular, with 3 valves and many *seeds.*

SPEC. CHAR. Shrubby, procumbent, with pointed stipulæ. Leaves elliptic-oblong, white and hairy beneath.

SYN. Cistus Helianthemum. *Linn. Sp. Pl.* 744. *Sm. Fl. Brit.* 575. *Huds.* 233. *With.* 492. *Hull.* 117. *Relh.* 209. *Sibth.* 167. *Abbot.* 117. *Curt. Lond. fasc.* 5. *t.* 36.

Helianthemum vulgare. *Raii Syn.* 341.

THIS elegant little shrub is a great ornament to broken banks, and hilly or rocky pastures, on a chalky, limestone, or even a gravelly soil, flowering copiously throughout July and August, each of its delicate tremulous blossoms lasting but a day, and scattering its petals early in the afternoon.

Several procumbent simple stems spring from one woody perennial root, and are leafy, round, and rough with short spreading hairs. Leaves opposite, on short stalks, elliptical, obtuse, entire, a little revolute; green, and clothed with simple hairs, above; white, downy, and also hairy, beneath. Stipulæ lanceolate, acute, green, fringed. Flowers in loose terminal clusters, on hairy stalks, bright yellow, very rarely (as it is said) white. Calyx coloured, its ribs hairy. Petals roundish, obscurely crenate. The stamina exhibit a curious instance of irritability, first pointed out to me by my worthy friend Dr. Thomas Hope, now Chemical Professor at Edinburgh. When touched with a pin or bristle they retire from the style, and lie down in a spreading form upon the petals. This can be seen only in calm warm weather, and when the flowers have not been ruffled by insects.

June 1 1804 Published by Jas Sowerby London

CISTUS polifolius.

White Mountain Cistus.

POLYANDRIA Monogynia.

GEN. CHAR. *Cal.* of 5 leaves, 2 of which are smaller than the rest. *Petals* 5. *Caps.* superior, angular, with 3 valves and many *seeds.*

SPEC. CHAR. Shrubby, procumbent, with blunt stipulæ. Pubescence starry. Leaves oblong, revolute, white and downy beneath.

SYN. Cistus polifolius. *Linn. Sp. Pl.* 745. *Sm. Fl. Brit.* 576. *Huds.* 234. *With.* 492. *Hull.* 118.

Chamæcistus montanus, polii folio. *Raii Syn.* 342.

Helianthemum montanum, polii folio incano, flore candido. *Dill. Elth.* 175. *t.* 145. *f.* 172.

WILD specimens of this very rare plant have been obligingly sent us by the Rev. Aaron Neck, from Babbicombe near Newton Abbot, Devonshire. Its only British station hitherto recorded is on Brent downs, Somersetshire. It is said to blossom in June and July.

In general habit this species is closely allied to the preceding, but differs in many essential points. The stems are hoary, with close-pressed hairs. The pubescence, loosely scattered over the upper surface of the leaves, and densely clothing the under, is all curiously radiated like little stars: a very important mark. The ribs of the calyx bear similar starry hairs. Mr. Sowerby has observed the stipulæ to be more obtuse than in *C. Helianthemum*. The petals moreover are white, with a yellowish claw, and generally more crenate than in that species. We have not examined this plant alive, so as to observe the irritability of the stamina, but should expect it to agree in that respect with the foregoing, to which it is so nearly akin.

CISTUS polifolius.

White Mountain Cistus.

POLYANDRIA Monogynia.

Gen. Char. Cal. of 5 leaves, 2 of which are smaller than the rest. Petals 5. Caps. superior, angular, with 5 valves and many seeds.

Spec. Char. Shrubby, procumbent, with blunt rigid pubescent hairy leaves oblong, revolute, white and downy beneath.

Syn. Cistus polifolius. Linn. Sp. Pl. 742. Sm. Fl. Brit. 576. Hudson 234. With. 482. Hull 113.

Chamæcistus montanus, polii folio. Raii Syn. 342.
Helianthemum montanum, polii folio incano, flore candido. Raii Hist. 1753. Ger. 172.

June 1.1804. Published by Jas Sowerby, London.

ORTHOTRICHUM affine.

Pale Straight-leaved Bristle-moss.

CRYPTOGAMIA Musci.

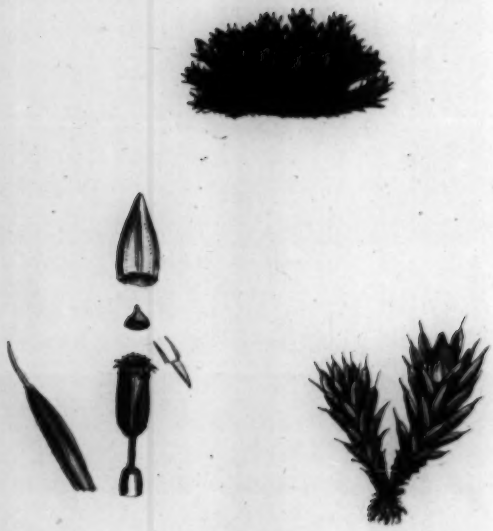
GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem branched. Leaves lanceolate, keeled, revolute, spreading. Veil slightly crenate. Inner fringe of eight teeth.

SYN. Orthotrichum affine. *Schrad. Spicil.* 67. *Sm. Fl. Brit.* 1263. *Turn. Musc. Hibern.* 96.
Weissia affinis. *Roth. Germ. v.* 3. 217.
Polytrichum capsulis sessilibus, foliis brevibus, rectis, carinatis. *Dill. Musc.* 432. *t.* 55. *f.* 10?

WE first gathered this on rocks near Edinburgh in 1782, but did not learn to distinguish it from the *Orthotrichum striatum, Dill. t.* 55. *f.* 8, till we were favoured with specimens of Dr. Schrader's *O. affine* from himself. It is probably not an uncommon species. Mr. Turner finds it plentiful on the mortar of old walls about Yarmouth, and has received it from Ireland. The fruit is perfected in summer and autumn.

The stems are perennial, firmly rooted, branched, leafy, and form tufts about an inch high. Leaves pale yellowish green, rather spreading, linear-lanceolate, somewhat acute, beardless, entire, revolute, keeled, with 1 rib, but no lateral veins. Capsules on short stalks, nearly cylindrical, erect, furrowed from their infancy, and twisted as they ripen. Veil conical, acute, furrowed, more or less crenate or torn, clothed with a few upright yellow deciduous hairs. Lid with a slender point and very red margin. Outer fringe of 8 pairs of reflexed teeth; inner of 8 simple white inflexed bristles, scarcely jointed except when very old. The *O. striatum* differs in having 16 strongly jointed teeth in its inner fringe, darker coloured leaves, and a more entire veil.



June 1. 1804. Published by Jas Sowerby, London.

ORTHOTRICHUM diaphanum.

Sharp hairy-leaved Bristle-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem somewhat branched. Leaves lanceolate, pointed, tipped with a transparent bristle. Veil mostly naked, slightly crenate.

SYN. Orthotrichum diaphanum. *Schrad. Spicil.* 69. *Sm. Fl. Brit.* 1265. *Turn. Musc. Hibern.* 99. *t.* 9. *f.* 1.

Weissia diaphana. *Roth. Germ. v.* 3. 223.

FOUND on old pales, and especially on the trunks of trees, in many places. Mr. D. Turner has pointed it out to us in several different parts of Norfolk. It is perennial, bearing its fruit in April, when the little reddish veils and capsules, rising up among the hair-pointed leaves, distinguish it from surrounding mosses.

The stems are tufted, scarcely branched, not half an inch high. Leaves of a dull or olive green, rather upright, closely imbricated, lanceolate, acute, entire, revolute, tipped with a white, pellucid, bristly point. Capsules terminal, on short stalks, cylindrical inclining to ovate, with 8 furrows. Veil bell-shaped, plaited, very slightly hairy, and sometimes quite naked, of a light reddish brown, darker at the tip; its edge crenate. Lid reddish, convex, with a little point. Outer fringe of 16 separate, linear-lanceolate, narrow teeth: inner of as many inflexed white bristles.

June 1. 1804. Published by Jas Sowerby, London.

ORTHOTRICHUM nudum.

Smooth Single-fringed Bristle-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem branched. Leaves ovato-lanceolate, keeled. Fringe simple. Veil naked, nearly entire.

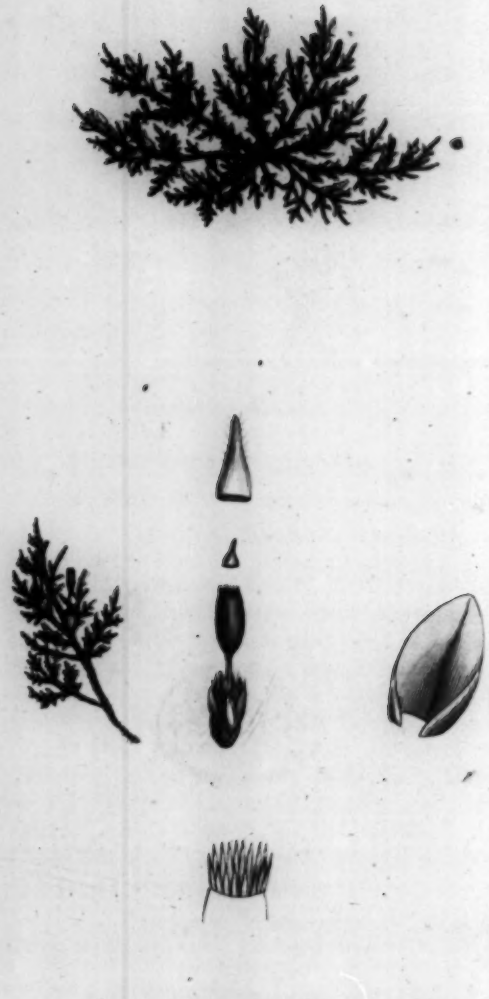
SYN. Orthotrichum nudum. *Dicks. Crypt. fasc.* 4. 6. *t.* 10. *f.* 13. *Sm. Fl. Brit.* 1268. *Turn. Musc. Hibern.* 97.

Bryum sessile. *With.* 810.

GROWS on rotten wood in damp shady places about rivers. Mr. Sowerby gathered it on upright posts by the Thames at Wandsworth, bearing fruit in April 1796, nor had it been observed before except in Wales.

The stems grow in loose horizontal tufts, about an inch long, branched and leafy. Leaves dark-green, spreading, of a broad lanceolate figure, rather pointed, beardless, keeled, entire, scarcely revolute, except when dried. Capsules on short terminal stalks, ovate, chiefly furrowed in their upper part. Veil pale and greenish with a brown tip, quite naked, unequally furrowed, its margin almost entire. Lid when young conical, but afterwards nearly flat, with a short blunt point. Fringe always simple, of 16 upright or inflexed teeth, at first combined in pairs, but afterwards separated.

O. anomalum of Hedwig, and *O. Brownianum* of *Fl. Brit.*, two very different species from this, are the only British ones besides with a single fringe.



June 1. 1804. Published by Jas Sowerby, London.

PTEROGONIUM Smithii.

Curling Wing-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Fringe* simple, of 16 linear upright teeth. *Veil* generally hairy.

SPEC. CHAR. Stems creeping, much branched. Branches pinnate, incurved by drying. Leaves entire. Sheath nearly as long as the fruitstalk.

SYN. Pterogonium Smithii. *Swartz. in Schrad. Journ. ann.* 1800, 173. *Sm. Fl. Brit.* 1271.

Hypnum Smithii. *Dicks. Crypt. fasc.* 2. 10. *t.* 5. *f.* 4. *Dr. Pl.* 19. *With.* 851. *Hull.* 270. *Hedw. Sp. Musc.* 264. *t.* 68. *f.* 5—7. *Sm. Tour, v.* 3. 234. *Dillw. Tr. of Linn. Soc. v.* 6. 183.

Muscus squamosus filicinus &c. *Mich. Gen.* 114. *n.* 98.

HAVING just been studying this moss on the trees of Italy, by singular good fortune I met with it, soon after landing in England, on a tree by a small inn on Barham downs, Kent, though without fructification. Mr. Dillwyn has since gathered it in that neighbourhood, and even near Walthamstow, and Mr. Groult near Weymouth. Mr. Sowerby has received specimens from both these gentlemen.

It is perennial, and bears fruit in the spring. The stems form broad creeping patches, and are much branched, the branches thrice pinnate, leafy, depressed, wiry and tough, curling back elastically when dry. Leaves of a full unpolished grass green, imbricated, sheathing, roundish, obtuse, concave, entire, beardless, with one rib, chiefly observable at the base. Sheaths lateral, pale, awlshaped, their inner scales hair-pointed. Fruitstalk scarcely longer than the sheath, erect, yellowish, twisted at the top when dry. Capsule upright and straight, ovate or almost cylindrical, smooth, red-brown, contracted at the mouth, and fringed with 16 little white linear deciduous teeth. Lid conical, oblique. Veil yellow and shining, clothed with erect yellow hairs.

See the other British *Pterogonium, v.* 16. *t.* 1085.

PTEROGONIUM Smithii.

Curling Wing-moss.

CRYPTOGAMIA Musci.

Gen. CHAR. Calyx oblong, from a lateral scaly sheath.
Fringe simple, of 16 linear upright teeth. Veil generally hairy.

Spec. CHAR. Stem creeping, much branched. Branches pinnate, incurved by drying. Leaves ovate. Sheath nearly as long as the leaves.

Syn. Pterogonium Smithii. Sowerby in Solyand. Journ. vol. 1800, 173. Sp. Pl. Brit. 1371.

Hypnum Smithii. Dicks. Crypt. Fasc. 2, 10. t. 5, f. 4. Dr. Fl. Brit. 851. Hall. 270. Hedw. 89. Marc. 264. t. 68, f. 5—7. Sm. Trans. v. 8. 254. Dillw. 71. of Linn. Soc. v. 6. 188.

Muscus squamosus filicinus Sec. Mich. Gen. 114. n. 93.

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It is perennial, and bears fruit in the spring. The stems form broad creeping patches, and are much branched, the branches thrice pinnate, fairly decurved, wiry and rough, curling back elastically when dry. Leaves of a full unpolished grass green, imbricated, ascending, roundish, obtuse, concave, entire, beardless, with one rib, chiefly observable at the base. Sheaths lateral, pale, wedge-shaped, four times scaly basepointed. Fruit-stalk scarcely longer than the sheath, erect, yellowish, twisted at the top when dry. Capsule upright and straight, ovate or almost cylindrical, smooth, red-brown, contracted at the mouth, and fringed with 16 little white linear deciduous teeth. Lid conical, oblique. Veil yellow and shining, clothed with erect yellow hairs.

See the other British Pterogonia, vol. 18. t. 1293.

July 1.1804. Published by Jas. Sowerby, London.

HYPNUM molluscum.

Plumy Crested Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base; *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem procumbent, pectinated. Leaves ovate-awlshaped, curved, without ribs. Capsule ovate, drooping. Lid conical.

SYN. Hypnum molluscum. *Hedw. Sp. Musc.* 289. *Crypt. v.* 4. 56. *t.* 22. *Sm. Fl. Brit.* 1335. *Turn. Musc. Hibern.* 198.

H. Crista-castrensis. *Huds.* 498. *With.* 854. *Hull.* 271. *Relh.* 434. *Sibth.* 295. *Abbot.* 247. *Dicks. H. Sicc. fasc.* 11. 20.

H. filicinum, cristam castrensem repræsentans. *Dill. Musc.* 284. *t.* 36. *f.* 20, A.

Muscus filicifolius luteus, folio crasso et undulato. *Raii Syn.* 86, sub *n.* 32.

AN elegant little species, plentiful enough on dry chalky or limestone hills, but the capsules are rather uncommon. We have however gathered them at Matlock. They ripen in May and June.

The stems are perennial, repeatedly subdivided, lying horizontally over each other in loose elastic tufts. Branches beautifully pectinated, their extremities curled, like ostrich plumes in miniature. Leaves pale yellowish green, with scarcely any polish, closely imbricated, curved to one side, awlshaped with a broad concave base, quite destitute of plaits or nerves, the margin minutely toothed. Fruitstalks solitary, an inch high, red and shining. Sheaths yellow, lax, with bristle-pointed scales. Capsule drooping, ovate, short, swelling, pale red brown. Fringe yellow. Lid conical, very acute.

The true *H. Crista-castrensis* of Linnæus is a larger and even more beautiful species, not yet found in Britain. Dillenius confounded them together.

HYPNUM molluscum.

Plump Crested Feather-moss.

CRYPTOGAMIA Musci.

Gen. Char. Caps. ovate-oblong, from a lateral scaly sheath. Outer fringe of 16 teeth, dilated at the base: inner a variously-toothed membrane. Veil smooth.

Spec. Char. Stem procumbent, pectinate. Leaves ovate-awl-shaped, carved, withdrawing. Capsule ovate, drooping. Lid conical.

Syn. Hypnum molluscum. Hedw. Sp. Musc. 289. Cryph. t. 4. 56. f. 22. Sm. Fl. Brit. 1553. Turn. Muse. Hibern. 198.

H. Crista-castrensis. Huds. 459. With. 854. Hall. 271. Relh. 454. Stirk. 205. Withr. 947. Dicks. Fl. Sicc. fasc. 11. 20.

H. filicinum, cristam castrensem repraesentans. Dill. Musc. 284. t. 36. f. 20. A.

Muscus filicinus latior, folio crasso et undulato. Raii Syn. 86. sub n. 32.

A N elegant little species, plentiful enough on dry chalky or limestone hills, but the capsules are rather uncommon. We have however gathered them at Matlock. They ripen in May and June.

The stems are perennial, repeatedly subdivided, lying horizontally over each other in loose elastic tufts. Branches beautifully pectinated, their extremities curled, like ostrich plumes in miniature. Leaves pale yellowish green, with scarcely any polish, closely imbricated, curved to one side, awl-shaped with a broad concave base, quite destitute of plaits or nerves, the margin minutely toothed. Fruit-stalks solitary, an inch high, red and shining. Sheaths yellow, lax, with bristle-pointed scales. Capsule drooping, ovate, short, swelling, pale red brown. Fringe yellow. Lid conical, very acute.

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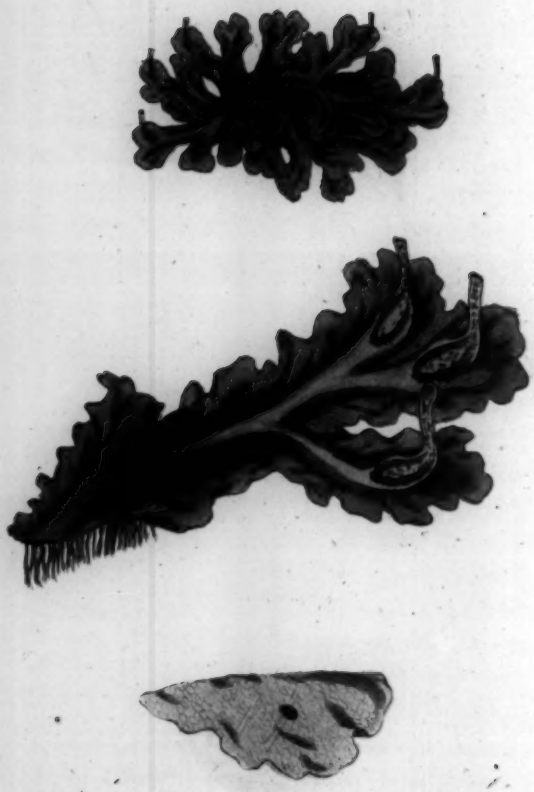

July 1 1804. Published by Jas. Sowerby, London.

BLASIA pusilla.

Dwarf Blasia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male, solitary imbedded in the frond. Female, *Cal.* none. *Caps.* imbedded in the frond, oblique, of 1 cell, with a tubular mouth. *Seeds* numerous.

SPEC. CHAR. , , , , ,

SYN. Blasia pusilla. *Linn. Sp. Pl.* 1605. *Huds.* 519. *With.* 886. *Hull.* 283. *Lightf.* 1112. *Hedw. Theor. t.* 28. *f.* 156—164. *Mich. Gen.* 14. *t.* 7.
Mnium lichenis facie. *Dill. Musc.* 237. *t.* 31. *f.* 7.

THE original observer of this plant in England was a Mr. Wm. Harrison, who sent it to Dillenius from the neighbourhood of Manchester. The latter committed a very great error in reducing it to the genus *Mnium*, and deserves the more censure on account of his contemptuous mention of Micheli for making it a new genus. Following botanists have found Micheli a better judge of a genus than Dillenius. Our specimen was sent from Ireland by favour of Mr. Templeton. It grows in shady damp rather sandy places, bearing fruit in October and November, and is of annual duration, the young plants appearing in the following summer.

The roots are fibrous. Fronds spreading circularly on the ground, an inch or more in extent, subdivided, lobed and crenate, of a light grass green, pellucid and shining, smooth, waved at the margin, appearing of a fine reticulated substance when held against the light, like a *Marchantia*. Black sessile depressed warts, agreed on all hands to be the male flowers, are scattered over the frond, and in the middle of each great lobe, towards the end, is placed an ovate oblique capsule, immersed in the substance of the frond, crowned with a long erect tubular mouth, through which the copious seeds are discharged.

PLASIA pusilla.

Dwarf Blasia.

CRYPTOGAMIA Hepaticæ.

Gen. Char. Male, solitary imbedded in the frond.
Female, Cal. none. Corol. imbedded in the frond, oblique, of 1 cell, with a tubular mouth. Seeds numerous.

Spec. Char. . . . . .

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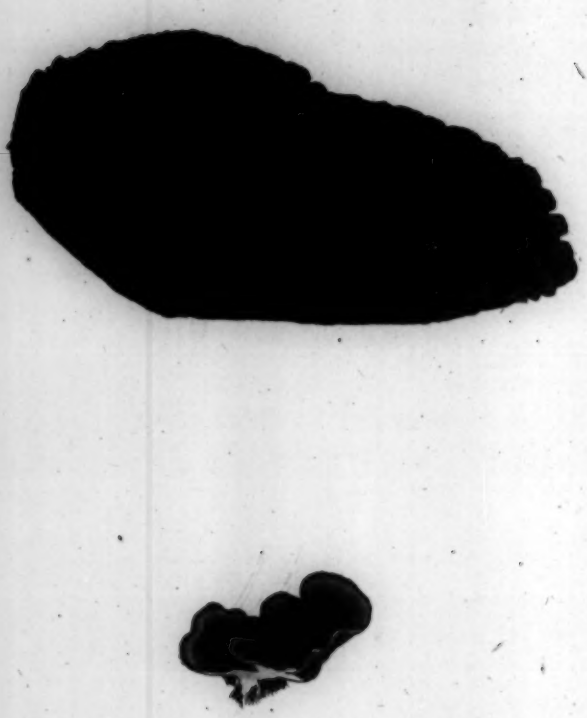

July 1. 1804. Published by Jas Sowerby, London.

LICHEN luridus.

Lurid Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust of roundish, imbricated, lobed, greenish-brown leaves, pale beneath. Shields black, slightly bordered, at length becoming convex tubercles.

SYN. Lichen luridus. *Achar. Prod.* 95. *Dicks. Crypt. fasc.* 2. 20. *With. v.* 4. 28. *Hull.* 293. *Schrad. Spic.* 92.

L. pulmonarius saxatilis viridis, foliis vix conspicuis squamatim sibi incumbentibus, receptaculis florum nigris. *Mich. Gen.* 101. *t.* 54. *ord.* 36. *f.* 4. *Dill. Musc.* 228. *t.* 30. *f.* 134.

Lecidea lurida. *Ach. Meth.* 77.

FOR fine specimens of this we are obliged to the Rev. Mr. Harriman, who found them about Eggleston, Durham. The thick, small, imbricated, blunt-lobed leaves form a sort of crust, on the loose earth in rocky shady places, to which they are attached by white fibrous roots. They are smooth, of a dull brown, various in darkness, and generally tinged with green. Their edges and under side are paler; their inner substance very white. The shields are very black, sessile, at first flat with a black border, but they become at length convex, and the border is obliterated. It is related to *L. cæruleonigricans, t.* 1139, but distinct.

We cannot help agreeing with Dillenius, Schrader and Acharius, that Mr. Dickson's *L. squamatus, Crypt. fasc.* 2. 20. *H. Sicc. fasc.* 3. 25. *Dill. t.* 30. *f.* 135, is not specifically distinct from the above.

LICHEN luridus.

Livid Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Crust of roundish, imbricated, lobed, greenish-brown leaves, pale beneath. Shields black, slightly bordered, at length becoming convex tubercles.

Syn. Lichen luridus. *Huds. Fl. Ang. 595. Engl. Bot. t. 1839. Schrad. Spic. 124.*

L. pulmonarius, saxatilis viridis, lobis crassiusculis imbricatis, subtus pallidioribus, nervo crassiusculo notatis. *Dill. Musc. 209. t. 30. f. 4. Dill. Herb.*

Lecidea lurida. *Ach. Meth. 77.*

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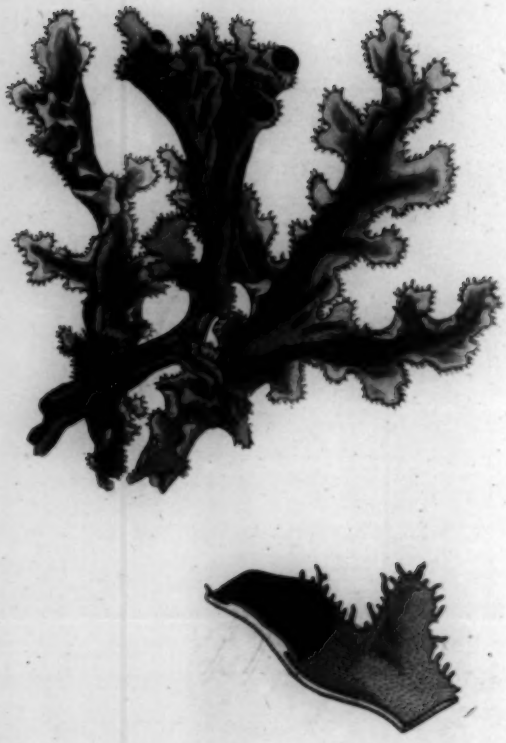
We cannot help agreeing with Dillenius, Schrader and Acharius, that Mr. Dickson's *L. squamosus*, Crypt. Fasc. 3. 20. H. Sicc. Fasc. 3. 23. Dill. t. 30. f. 133, is not specifically distinct from the above.



July 2 1804. Published by J.d. Sowerby, London.

LICHEN islandicus.

Iceland Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, ascending, laciniated, channelled and fringed, greenish chesnut-coloured. Shields sessile, flat, of the same colour.

SYN. Lichen islandicus. *Linn. Sp. Pl.* 1611. *Achar. Prod.* 170. *Huds.* 539. *With. v.* 4. 54. *Hull.* 296. *Lightf.* 829. *Woodv. Med. Bot. t.* 205. *Jacq. Coll. v.* 4. 253. *t.* 8. *f.* 1.

Lichenoides rigidum, eryngii folia referens. *Raii Syn.* 77. *Dill. Musc.* 209. *t.* 28. *f.* 111.

L. islandicum. *Hoffm. Pl. Lich. t.* 9. *f.* 1.

Cetraria islandica. *Achar. Meth.* 293.

A NATIVE of mountainous heaths and woods in the alpine parts of Britain. We have gathered it on the Pentland hills near Edinburgh, Ben Lomond, &c. and have received it from Durham, but have been obliged to draw the fructification from foreign specimens. On the Alps the shields more frequently occur, and the whole plant is more luxuriant, than with us.

The fronds form loose elastic tufts, often intermixed with moss and other plants. They are channelled in the lower part, dilated and elegantly divided and lobed above; the margin regularly fringed. Colour a rich chesnut brown, rather shining, with a green tinge when wet: the under side paler, and the whole plant pale in the shade. The bottom sometimes turns very red; perhaps from some alkaline substance falling on it. The shields are dark chesnut, polished, flat, without any border, growing close to the upper surface of the frond near the summit.

This Lichen abounds with nutritious mucilage, and is become a fashionable medicine in coughs and consumptions. It is previously infused in water to extract its purgative bitter quality. See Woodville for a full account of its use.

[1850]

LICHEN islandicus.

Iceland Liehen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Leafy, membranous, ascending, laciniated, channelled and fringed, greyish chesnut-coloured. Shields sessile, flat, of the same colour.

Syn. Lichen islandicus. Linn. Sp. Pl. 1611. Achar. Prod. 180. Hall. 839. With. 4. 54. Hall. 296. Light. 809. Woode. 614. Bot. 4. 202. Ach. Coll. 4. 236. t. 8. f. 1.

Lichenoides rigidum, erygii folia referens. Ran Syn. 77. Dill. Musc. 222. t. 26. f. 11.

L. islandicum. Web. Pl. Crypt. 8. t. 1.

Cetraria islandica. Achar. Meth. 312.

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July 1. 1804. Published by Jas. Sowerby, London.

FUCUS Phyllitis.

Hart's-tongue Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond membranous, very thin, simple, linear-lanceolate, entire, without a rib. Stalk short and compressed.

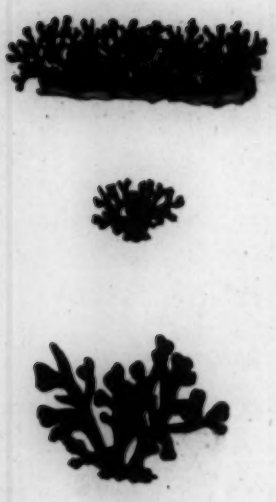
SYN. Fucus phyllitis. *Stackh. t.* 9. *Turn. Syn.* 193. *With. v.* 4. 100. *Hull.* 329.

F. saccharinus β. *Lightf.* 941.

F. phyllitidis folio. *Dill. in Raii Syn.* 40.

MR. TURNER has favoured us with specimens of this hitherto very obscure species from Yarmouth. We are therefore certain of its being what he intended, and we cannot feel much doubt of the synonyms of Dillenius and Lightfoot.

It is found growing on the stems of larger plants of the same genus cast up on the beach, but not frequently. The root consists of a few short, soft, compressed, fleshy fibres. Stalk scarcely an inch long, compressed and soft. Frond linear-lanceolate, tapering at each end, flat, entire, a little waved, about a foot long, of a delicate light green, without rib or veins, very thin and membranous; in which circumstance it differs so much from all the varieties and different states of *F. saccharinus* as to seem well entitled to be ranked as a distinct species. The fructification has not yet been observed.



July 1. 1804. Published by Jas Sowerby, London.

FUCUS pygmæus.

Pigmy Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond cartilaginous, forked, dilated and palmate at the top. Tubercles globose, terminal, perforated at their summits.

SYN. Fucus pygmæus. *Lightf.* 964. *t.* 32. *Turn. Syn.* 258. *With. v.* 4. 100.

F. pumilus. *Huds.* 584.

F. lichenoides. *Gooden. & Woodw. Tr. of Linn. Soc. v.* 3. 192. *Hull*, 324.

Lichen saxatilis maritimus muscosus minimus nigerrimus. *Mich. Gen.* 103.

GATHERED on the Cornish coast. It is also found in Devonshire, Dorsetshire, Scotland and the Hebrides. We have observed it about Leith and New Haven, growing on rocks generally washed by high tides.

Its black crowded fronds form large patches, visible at a distance, and sometimes clothing the rocks to a considerable extent. They are firmly fixed by a small base, and closely matted together, upright or spreading, branched, forked, compressed, dilated and palmate upwards. Their colour is a very dark purplish green when seen against the light, but otherwise black; their substance rigid and horny, at least when dry. The tubercles are terminal, round, with a small perforation at the top, which gradually enlarges, so that they become concave shields like those of some gelatinous Lichens. Mr. Turner's remark that he never could detect seeds in these tubercles, which if those of a Fucus would not be very difficult to find, justifies the suspicion that the plant may be a Lichen. Some future Hedwig, seizing a fortunate moment, may perhaps find the proper seeds of that genus in the ripe disk of these enlarged tubercles.

July 1. 1804. Published by J.E. Smith, London.

CYNOSURUS echinatus.

Rough Dog's-tail-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing several florets. *Partial Receptacle* unilateral, leafy.

SPEC. CHAR. Bracteæ pinnate, chaffy, bearded. Spike compound, ovate.

SYN. Cynosurus echinatus. *Linn. Sp. Pl.* 105. *Sm. Fl. Brit.* 112. *Huds.* 59. *With.* 150. *Hull.* 29. Gramen alopecuroides, spicâ asperâ brevi. *Raii Syn.* 397.

THIS grass loves a sandy soil and rather a warm climate. It has not been found in any other part of our island than here and there on the south coast. Sherard found it in Jersey. We have drawn a cultivated specimen, but not more luxuriant than wild ones with which it has been compared. The seeds were gathered in Sussex. It flowers in July, and is annual.

Root of a few downy fibres. Stems one or more, ascending, leafy, round, striated, smooth, about a span high. Leaves lanceolate, ovate at their base, acute, flat, striated, roughish on both sides. Sheaths a little inflated, somewhat compressed or two-edged, furrowed, roughish. Stipula lanceolate. Spike ovate, branched, dense. Spikelets inclined to one side, alternate, ovate, each accompanied by a sort of abortive spikelet, called by Linnæus a bractea, which is pinnate, consisting of alternate, lanceolate, membranous, ribbed, rough husks, each tipped with a straight, rough, purple awn, various in length. Calyx of 2 equal, very thin, beardless glumes. Florets 2 or more, their outer glumes roughish, each bearing a long rough purple awn: the inner finely fringed. Seed clothed with the hardened corolla.

July 1.1804. Published by Jas Sowerby, London.

LAGURUS ovatus.

Hare's-tail-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, single-flowered, with feathery awns. Outer valve of the *corolla* with 2 terminal awns, and a dorsal twisted one.

SPEC. CHAR. . . . .

SYN. Lagurus ovatus. *Linn. Sp. Pl.* 119. *Sm. Fl. Brit.* 143. *With.* 166. *Hull.* 17. *Dicks. H. Sicc. fasc.* 7. 1.

Alopecuros spicâ rotundiore. *Moris. sect.* 8. *t.* 4. *f.* 1.

WE have received this from Guernsey. It was first observed there by Mr. Gosselin, who sent specimens to Mr. Dickson. It grows in sandy open places, flowering in June, and remains for some time afterwards bleaching in the wind.

The annual root consists of a few thick downy fibres. Stem solitary, various in height and thickness, erect, leafy, jointed, round, very smooth. Leaves lanceolate, ovate at the base, flat, soft and downy, with very long, inflated, downy sheaths. Stipula oblong. Spike at first erect, but most commonly driven toward one side by the wind, which has great power over its light feathery form, so that it becomes somewhat drooping. Its shape is ovate and blunt. Flowers numerous and crowded. Calyx of 2 equal, narrow, long glumes, finely fringed or feathered with long, soft, dense, white hairs. Floret solitary, sessile, lanceolate, bristly at the base and keel, terminated by 2 rough straight awns, and bearing from the back a much longer and stronger, rough and twisted, awn. The inner glume is thin, beardless, and cloven.

Lagurus cylindricus of Linnæus is now justly esteemed a *Saccharum;* the specific character of that here described becomes therefore superfluous.

July 1.1810. Published by Jas Sowerby, London.

AGRIMONIA Eupatoria.

Common Agrimony.

DODECANDRIA Digynia.

GEN. CHAR. *Cal.* 5-toothed, with an appendage at its base. *Petals* 5, inserted on the calyx. *Seeds* 2, in the bottom of the calyx.

SPEC. CHAR. Stem-leaves pinnated; the odd leaflet on a footstalk. Fruit bristly.

SYN. Agrimonia Eupatoria. *Linn. Sp. Pl.* 643. *Sm. Fl. Brit.* 511. *Huds.* 206. *With.* 443. *Hull.* 104. *Relh.* 182. *Sibth.* 150. *Abbot.* 104. *Curt. Lond. fasc.* 5. *t.* 32. *Mart. Rust. t.* 37. *Woodv. Suppl. t.* 258.
Agrimonia. *Raii Syn.* 202.

AGRIMONY is common every where in the rough borders of fields and other waste places, flowering in June and July. When rubbed it exhales a peculiar but not unpleasant aromatic scent. Its astringent and bitter qualities render it mildly tonic and stimulant: but it is rather a popular than a classical medicine, and makes the principal and most efficacious part of some empirical herb teas.

The root is perennial, red, and very astringent. Stem upright, about 2 feet in height, leafy, angular and hairy. Leaves alternate, hairy, interruptedly pinnate, with a terminal stalked leaflet; the larger leaflets somewhat elliptical, acute, deeply serrated; the little intermediate ones roundish, lobed. Stipulæ falcate, cut. Spike terminal, long, of many deep-yellow, nearly sessile, flowers. Calyx bell-shaped, furrowed, 5-cleft, hairy, with a lobed appendage at its base, which we should call a bractea. Stamina and 5 petals inserted into the rim of the calyx. Germens and styles 2. The permanent hardened calyx, rough with hooked bristles, serves as a capsule to the 2 seeds.

This genus evidently belongs to the natural order of *Rosaceæ*, with which it agrees in qualities.

AGRIMONIA Eupatoria.

Common Agrimony.

July 1 1804. Published by Jas Sowerby, London.

EUPHORBIA exigua.

Dwarf Spurge.

DODECANDRIA Trigynia.

GEN. CHAR. *Cal.* of 1 leaf, inflated, inferior. *Nectaries* 4 or 5, standing on the calyx. *Caps.* stalked, 3-lobed.

SPEC. CHAR. Umbel of three dichotomous rays. Partial involucra lanceolate. Leaves linear.

SYN. Euphorbia exigua. *Linn. Sp. Pl.* 654. *Sm. Fl. Brit.* 515. *Huds.* 208. *With.* 447. *Hull.* 105. *Lightf.* 250. *Relh.* 183. *Sibth.* 151. *Abbot.* 105. *Curt. Lond. fasc.* 4. *t.* 36. *Dicks. H. Sicc. fasc.* 9. 6. *Wade Dubl.* 131.

Tithymalus leptophyllos. *Raii Syn.* 313.

THIS, the smallest British *Euphorbia*, occurs sometimes in gravelly corn-fields, flowering in July. We have gathered it at Battersea, Harefield, and other places about London, as well as in Norfolk. Dr. Wade finds it about Dublin; in Scotland it is rare.

The root is small and annual. Stem one, or more, erect, from 3 to 6 inches high, round, leafy. Whole herb smooth, of a pale, somewhat glaucous, green. Leaves alternate, sessile, linear-lanceolate, upright, acute, entire. General umbel of 3 or 4, rarely 5, rays, which are repeatedly forked. General and partial involucra lanceolate. Nectaries 4, roundish, yellowish brown, each with a pair of green horns. Capsule smooth. Seeds quadrangular, rugged.

We presume the Tithymalus segetum longifolius, *Raii Syn.* 312, can be nothing else than a variety of this plant; which we have found to vary in the size of all its parts according to the richness of the soil.

[1356]

EUPHORBIA exigua.

Dwarf Spurge.

Gen. Char. Cal. of 1 leaf, inferior. Nectaries 4 or 5, standing on the calyx. Caps. stalked, 3-lobed.

Spec. Char. Umbel of three dichotomous rays. Partial involucra lanceolate. Leaves linear.

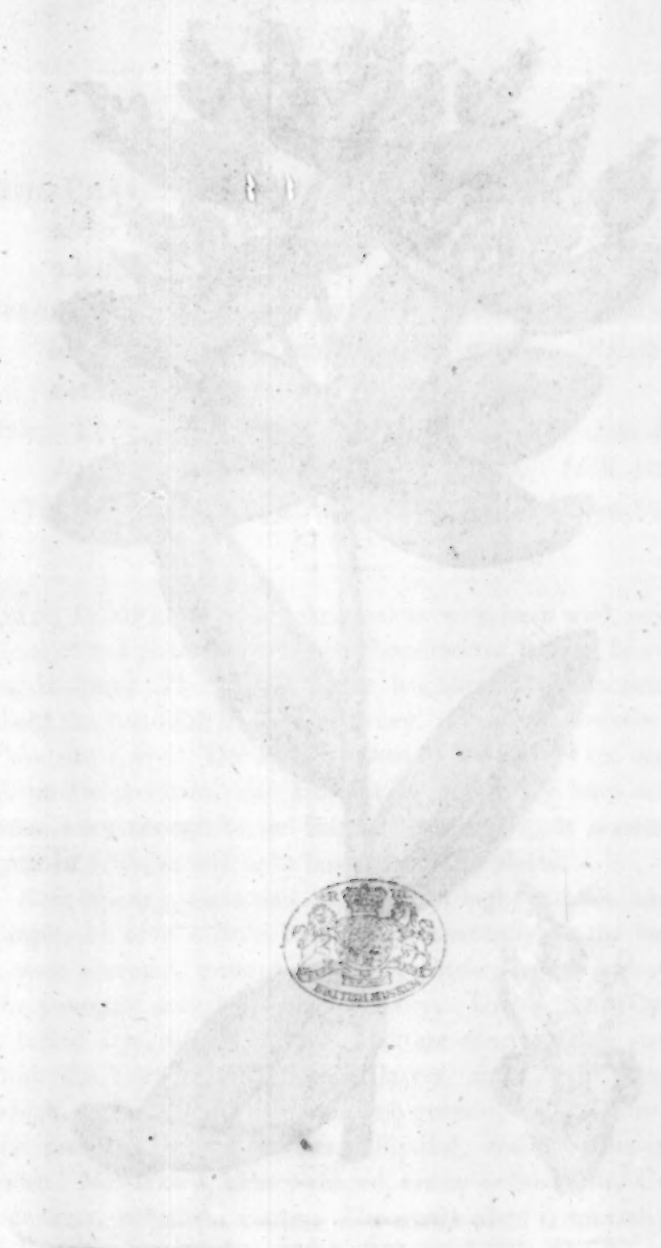
Syn. Euphorbia exigua. Linn. Sp. Pl. 651. Sm. Fl. Brit. 515. Fluds. 208. With. 447. Hull. 105. Light. 250. Relh. 183. Stokes, 153. Abbot. 105. Curt. Lond. fasc. 4. t. 38. Dicks. Fl. Sicc. fasc. 6. Wade Dubl. 151.

Tithymalus leptophyllos. Ruii. Syn. 212.

THIS, the smallest British Euphorbia, occurs sometimes in gravelly corn-fields, flowering in July. We have gathered it at Battersea, Hurfield, and other places about London, as well as in Norfolk. Dr. Wade finds it about Dublin; in Scotland it is rare.

The root is small and annual. Stem one or more, erect, from 3 to 6 inches high, round, leafy. Leaves both smooth, of a pale, somewhat glaucous, green. Leaves alternate, sessile, linear-lanceolate, upright, acute, entire. General umbel of 3 or 4, rarely 5, rays, which are repeatedly forked. General and partial involucra lanceolate. Nectaries 4, roundish, yellowish brown, each with a pair of green horns. Capsule smooth. Seeds quadrangular, rugged.

We presume the Tithymalus segetum longifolius, Ruii Syn. 214, can be nothing else than a variety of this plant: which we have found so very in the size of all its parts according to the richness of the soil.



July 1. 1804. Published by Jas. Sowerby, London.

EUPHORBIA hiberna.

Irish Spurge.

DODECANDRIA Trigynia.

GEN. CHAR. *Cal.* of 1 leaf, inflated, inferior. *Nectaries* 4 or 5, standing on the calyx. *Caps.* stalked, 3-lobed.

SPEC. CHAR. Umbel of six dichotomous rays. Partial involucra oval. Leaves obtuse, entire. Branches none. Capsules warty.

SYN. Euphorbia hiberna. *Linn. Sp. Pl.* 662. *Sm. Fl. Brit.* 519. *Huds.* 210. *With.* 450. *Hull.* 106. Tithymalus hibernicus. *How. Phyt.* 121. *Raii Syn.* 312.

MR. TEMPLETON has favoured us with fresh wild specimens of this plant from the neighbourhood of Belfast, flowering in June. The Rev. Mr. Butt has observed it plentifully about the beautiful lake of Killarney, also in the counties of Cork and Kerry. Doody is reported to have found the same about Twickenham, and Hudson in Kent. We have never been lucky enough to see English specimens. It is said to grow in fields, as well as in bushy or woody places.

Root tapering, perennial. Stem 2 feet high, smooth, leafy, simple, or only a little branched occasionally at the base. Leaves alternate, uniform, obovate, obtuse, entire, smooth, the youngest only being a little hairy. Umbel generally of 6 forked rays, besides which there are often solitary stalks from the bosoms of the upper leaves, and a single flower, which, as far as we can find, has no germen, in the centre of the umbel. Partial involucra elliptical, entire, yellowish-green. Nectaries 4, kidney-shaped, tawny or brownish. Capsule erect, roundish, warty. The whole plant is excessively milky when wounded.

July 1 1804. Published by Sol. Sowerby, London.

DRABA hirta.

Simple-haired Whitlow-grass.

TETRADYNAMIA Siliculosa.

GEN. CHAR. *Pouch* entire, long-oval: valves flattish, parallel to the partition. *Style* scarcely any.

SPEC. CHAR. Stalk nearly naked. Petals undivided. Pouch lanceolate. Leaves slightly toothed, fringed with simple hairs.

SYN. Draba hirta. *Linn. Sp. Pl.* 897. *Sm. Fl. Brit.* 677.
D. stellata. *Dicks. Tr. of Linn. Soc. v.* 2. 288. *Crypt. fasc.* 2. 29. *With.* 565. *Hull.* 143.
D. pyrenaica. *Fl. Dan. t.* 143.

GATHERED on the Highland mountain of Ben Lawers by Mr. Dickson; and since by the late Mr. J. Mackay, from whom we received this specimen. Few plants are less generally known.

It is perennial, and flowers in May and June. Roots branching at the top, and bearing several little tufts of lanceolate, spreading leaves, more or less waved or notched, fringed, sometimes hairy beneath. All the hairs are quite simple, except those on the fruit, and point rather upwards. Stalk 2 or 3 inches high, solitary, simple, round, more or less hairy, naked, except an occasional leaf near the bottom. Flowers small, in a little corymbus. Calyx spreading, hairy. Petals white, scarcely notched. Pouch upright, lanceolate, flattish, a little longer than its partial stalk, crowned with an almost sessile stigma, and generally clothed with minute, forked, divaricated, white hairs.

The real *D. stellata* of Jacquin has starry hairs on the leaves, shorter pouches, a longer style, and flowers thrice as large.

We take this opportunity of mentioning that the discovery of *D. aizoides, t.* 1271, is claimed by our obliging correspondent John Lucas, Esq. of Stout Hall near Swansea, who informs us he found it in 1795 near Wormshead, 16 miles west of that town; but having never mentioned it to his friend Dr. Turton, the latter justly thought himself the original discoverer.

Aug.st 1.1804 Published by Jas Sowerby, London.

SPARTIUM scoparium.

Common Broom.

DIADELPHIA Decandria.

GEN. CHAR. *Stigma* longitudinal, downy above. *Filaments* all united, adhering to the germen. *Calyx* extended downward.

SPEC. CHAR. Leaves ternate or solitary. Branches angular, without thorns.

SYN. Spartium scoparium. *Linn. Sp. Pl.* 996. *Sm. Fl. Brit.* 753. *Huds.* 310. *With.* 623. *Hull.* 158. *Relh.* 275. *Sibth.* 218. *Abbot.* 153. *Curt. Lond. fasc.* 5. *t.* 52. *Woodv. Med. Bot. t.* 89.

Genista angulosa trifolia. *Raii Syn.* 474.

THIS handsome shrub grows abundantly on dry gravelly hills, to the ornament of which it greatly contributes, both by its copious evergreen twigs in winter, and still more by its golden blossoms in the months of May and June. In fertile loamy soil it reaches the height of 10 or 12 feet, but is generally of more humble growth. That which grows in Scotland seems to be a permanently large variety.

The strong and tough stem bears numerous, long, straight, angular, smooth, evergreen branches. The leaves are deciduous, on footstalks, ternate, often simple on the upper part of the same branch; the leaflets uniform, entire, smooth. Flowers generally solitary, axillary, on smooth round stalks, drooping, large, of a full bright yellow, often orange-coloured externally. Calyx somewhat campanulate, with 2 gaping toothed lips, smooth, frequently purple. The stamina are all united, or truly monadelphous, at the base. Germen downy, with a long downy contorted style. Pod compressed, brown, a little hairy, containing several polished flattish seeds.

We have received from South Wales an elegant variety with pale lemon-coloured flowers, but it is not invariably constant from seed.

The virtues of the Broom in dropsies are very problematical, nor is it to be used rashly.

SPARTIUM scoparium.

Common Broom.

DIADELPHIA Decandria.

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Spec. Char. Leaves ternate or solitary. Branches angular, without thorns.

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The virtues of the Broom in dropsies are very problematical, nor is it to be used rashly.

Augt 1 1804. Published by J.C. Sowerby, London

TRIFOLIUM officinale.

Common Melilot.

DIADELPHIA Decandria.

GEN. CHAR. *Flowers* more or less capitate. *Pod* scarcely longer than the calyx, never bursting, but falling off entire.

SPEC. CHAR. Pods spiked, naked, rugged, acute, containing two seeds. Stem erect.

SYN. Trifolium officinale. *Sm. Fl. Brit.* 781. *Relh.* 286.
T. Melilotus-officinalis. *Linn. Sp. Pl.* 1078. *Huds.* 323. *With.* 645. *Hull.* 162. *Sibth.* 227. *Abbot.* 161. *Mart. Rust. t.* 72.
Melilotus vulgaris. *Raii Syn.* 331.

FREQUENT in bushy places, borders of fields, and sometimes among corn, flowering in June and July. It was formerly cultivated as a crop, and has very lately come into fashion again in some places. When dry it has the smell of hay, but in a peculiarly strong degree, approaching the flavour of bitter almonds. The seeds have the same flavour, and render it, as Professor Martyn observes, a very bad weed among bread corn, to which they powerfully communicate their taste.

Root annual. Stem erect, rather slender, furrowed, branched, leafy. Leaves ternate, (very rarely we have seen 5 together,) on stalks; the leaflets obovate, narrow, serrated, smooth. Flowers in long, axillary, stalked spikes, yellow, all drooping toward one side, with small bracteæ. Calyx and partial stalks hairy. Stigma obtuse. Pod pendulous, elliptical, tapering at each end, transversely wrinkled, hairy. Seeds two.

TRIFOLIUM officinale.

Common Melilot.

DIADELPHIA Decandria.

Gen. Char. Flowers more or less capitate. Pod scarcely longer than the calyx, never bursting, but falling off entire.

Spec. Char. Pods spiked, naked, rugged, acute, containing two seeds. Stem erect.

Syn. Trifolium officinale. Sm. Fl. Brit. 781. Relh. 286.
T. Melilotus-officinalis. Linn. Sp. Pl. 1078. Huds. 292.
With. 646. Hull. 162. Stokes, 227. Abbot. 181.
Mart. Rust. t. 72.
Melilotus vulgaris. Desf. Syn. 381.

Frequent in bushy places, borders of fields, and sometimes among corn, flowering in June and July. It was formerly cultivated as a cure, and has very lately come into fashion again in some places. When dry it has the smell of hay, but in a peculiarly strong degree, approaching the flavour of bitter almonds. The seeds have the same flavour, and render it, as Professor Martyn observes, a very bad weed among bread corn, to which they powerfully communicate their taste.

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Augst 1 1804 Published by Jas Sowerby, London

BUXUS sempervirens.

Box-tree.

MONOECIA Tetrandria.

GEN. CHAR. Male, *Cal.* of 3 leaves. *Petals* 2. Rudiment of a *germen.* Female, *Cal.* of 4 leaves. *Petals* 3. *Caps.* with 3 beaks, 3 cells, and 2 *seeds* in each cell.

SPEC. CHAR. . . . .

SYN. Buxus sempervirens. *Linn. Sp. Pl.* 1394. *Sm. Fl. Brit.* 1013. *Huds.* 417. *With.* 210. *Hull.* 210.

Buxus. *Raii Syn.* 445.

β. B. angustifolia. *Dill. in Raii Syn.* 445.

THE Box grows on dry chalky hills, but not universally. Ray mentions Box hill in Surrey; Boxwell, Gloucestershire; and Boxley, Kent; three places evidently named from their producing this plant, of which the first-mentioned is the most famous. It is a conical hill, naturally clothed with these trees, which grow 10 or 12 feet high, and in autumn particularly, when their older leaves assume the colour of vermilion, present a rich and beautiful spectacle. Mr. Woodward has observed the chalk hills near Dunstable to produce plenty of Box. It is not, however, mentioned in any of our three provincial Floras.

It flowers in April, and is the most tardy in growth of all our trees; consequently its wood is hard, heavy, and of a fine close grain, valuable for making mathematical instruments, combs, and the finer kinds of turners' ware. A dwarf variety is universally cultivated for the borders of flower-gardens.

The whole plant is smooth. Branches square. Leaves opposite, elliptical, entire, convex, notched at the end, shining, evergreen, various in breadth. Flowers in sessile axillary clusters, pale yellow. Capsule globose, crowned with the 3 permanent thick styles. It is not always easy to draw the line of distinction between the calyx and petals, which moreover vary occasionally in number.

BUXUS sempervirens.

Box-tree.

MONOECIA Tetrandria.

GEN. CHAR. Male. Cal. of 3 leaves. Petals 0. Rudiment of a germen. Female. Cal. of 4 leaves. Petals 8. Caps. with 3 beaks, 3 cells, and 2 seeds in each cell.

SPEC. CHAR. . . . .

SYN. Buxus sempervirens. Linn. Sp. Pl. 1334. Sm. Fl. Brit. 1013. Hudson. 417. With. 910. Hull. 210.

Buxus. Rail Syn. 442.

B. angustifolia. Hill. in Linn. Syn. 442.

THE Box grows on dry chalky hills, but not universally. May mentions Box hill in Surrey; Boxwell, Gloucestershire; and Boxley, Kent; three places evidently named from their producing this plant, of which the first-mentioned is the most famous. It is a conical hill, naturally clothed with these trees, which grow 10 or 12 feet high, and in autumn particularly, when their older leaves assume the colour of vermilion, present a rich and beautiful spectacle. Mr. Woodward has observed the chalk hills near Dunstable to produce plenty of Box. It is not, however, mentioned in any of our three provincial Floras.

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The whole plant is smooth. Branches square. Leaves opposite, elliptical, entire, convex, notched at the end, shining, evergreen, various in breadth. Flowers in sessile axillary clusters, pale yellow. Capsule 3-lobed, crowned with the 3 permanent thick styles. It is not always easy to draw the line of distinction between the calyx and petals, which moreover vary occasionally in number.

Aug.st 1. 1804. Published by Jas. Sowerby, London.

QUERCUS Robur.

Common British Oak.

MONOECIA Polyandria.

GEN. CHAR. Male, *Cal.* bell-shaped, lobed. *Cor.* none. *Stam.* 5—10. Female, *Cal.* bell-shaped, entire, rough. *Cor.* none. *Style* 1. *Stigmas* 3. *Nut* superior, leathery, with 1 seed.

SPEC. CHAR. Leaves deciduous, oblong, wider towards the extremity: their sinuses rather acute: their angles obtuse. Fruit-stalks elongated.

SYN. Quercus Robur. *Linn. Sp. Pl.* 1414. *Sm. Fl. Brit.* 1026. *Huds.* 421, α. *Relh.* 378. *Sibth.* 133. *Woodv. Med. Bot. t.* 126. *Mart. Rust. t.* 10.

Q. fœmina. *With.* 387.

Q. pedunculata. *Hull.* 212. *Abbot.* 210.

Q. latifolia. *Raii Syn.* 440.

IF in the foregoing page we have exhibited the most valuable British wood, with respect to the refinements of art, we here present a plant of infinitely greater importance, the support of our unconquered navy, and the most useful wood we have for all the valuable purposes of civil life.

We have two certain species of Oak in Britain (see *Fl. Brit.*), but this is by far the most common, growing every where in woods and hedges, and its timber is also the best. Those who wish for more particulars on this subject than we have room for, will find ample satisfaction in Martyn's *Flora Rustica*.

Quercus Robur is no less ornamental than useful, growing to a large size, rich and picturesque in its form and foliage. It flowers early in April. The leaves are deciduous, alternate, nearly sessile, somewhat obovate, but deeply sinuated, with obtuse lobes; smooth and shining above; a little glaucous beneath. Male flowers in slender pendulous stalked yellow clusters; female 3 or 4 on a long stalk. The calyx of the latter is entire, scaly, and becomes the well-known cup of the nut or acorn. Few plants nourish more insects.

QUERCUS Robur.

Common British Oak.

MONOECIA Polyandria.

Gen. Char. Male, Cal. bell-shaped, lobed. Cor. none.
Stam. 5—10. Female, Cal. bell-shaped, entire, rough. Cor. none. Style 1. Stigmas 3. Nut superior, leathery, with 1 seed.

Spec. Char. Leaves deciduous, oblong, wider towards the extremity: their sinuses rather acute: their angles obtuse. Fruit-stalks elongated.

Syn. Quercus Robur. Linn. Sp. Pl. 1414. Sm. Fl. Brit. 1029. Fluds. 427, a. Reft. 378. Sibth. 183. Weak. Med. Bot. t. 129. Mart. Rust. t. 10.
Q. fœmina. Mill. 831.
Q. pedunculata. Hall. 212. Lobel 270.
Q. latifolia. Rail Syn. 440.

Aug.st 1.1804. Published by Jas Sowerby, London

SALIX Helix.

Rose Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Erect. Stamen one. Leaves lanceolate, pointed, slightly serrated, smooth. Style prominent, cylindrical. Stigmas linear.

SYN. Salix Helix. *Linn. Sp. Pl.* 1444. *Sm. Fl. Brit.* 1040. *Huds.* 427. *Relh.* 385.

S. monandra. *With.* 45. *Hull.* 218. *Sibth.* 16. *Abbot.* 212. *Curt. Lond. fasc.* 6. *t.* 71.

S. humilior, foliis angustis subcæruleis, ex adverso binis. *Raii Syn.* 448.

NOT uncommon in marshy places, osier holts, &c. flowering about the end of March or beginning of April.

It forms a small, slender, upright tree, with long, tough, very smooth and polished, twigs, of a pale yellowish or purplish ash-colour. Leaves (as well as catkins) opposite or alternate on the same plant; the former is a rare circumstance in this genus. Footstalks short. Stipulæ none. The form of the leaves is lanceolate, pointed, very much drawn out, as it were, toward the base into a linear shape. This is a distinguishing character. The serratures are slight, and most in the upper part. There is a little pubescence on the youngest leaves only: the older are quite smooth, of a light, somewhat glaucous, green. Male catkins, about an inch long, on shortish stalks. Scales concave, tipped with black. Nectary oblong, entire. Stamen 1, with a 4-lobed anthera. Female catkins thicker and with broader scales. Germen sessile, ovate, silky. Style very perceptibly projecting, smooth, with linear, at length cloven, stigmas.

We shall take the first opportunity of delineating the much rarer *S. purpurea*, which Hoffmann and Curtis confound with this.

SALIX Helix.

Rose Willow.

Aug.st 1.1804. Published by Jas Sowerby, London.

SALIX Forbiana.

Basket Osier.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Erect. Stamen one. Leaves with small stipulæ, lanceolate, acute, finely toothed, smooth, glaucous beneath. Stigmas linear.

SYN. Salix Forbiana. *Sm. Fl. Brit.* 1041.

S. fissa. *Relh.* 385. *Tr. of Linn. Soc. v.* 6. 115; but not of Hoffmann.

THIS, which is highly valuable, as an Osier, for the finer kinds of basket work, and on that account greatly preferred to the foregoing, was first sent to Mr. Crowe by the late Rev. Joseph Forby, from Fincham, Norfolk. It has since been observed in many places in Cambridgeshire. We had long thought it Hoffmann's *S. fissa:* but authentic specimens of that at length undeceived us; neither is the stamen cloven, but simple and monandrous as in *S. Helix*. We have once luckily found 1 or 2 male flowers at the base of a female catkin, which served to decide this point; for the true male plant we have not seen. The name may serve to commemorate the original discoverer, or more especially his brother the Rev. Rob. Forby, an able botanist.

The leaves in this are alternate, rarely almost opposite, truly lanceolate, pointed, of a darker green above, and more thickly toothed or serrated, than in the last; glaucous beneath. Stipulæ small, lanceolate, acute, often wanting. Catkins sessile, so very like in all their parts to *S. Helix* that they can hardly be distinguished; but the leaves afford sufficient marks of difference, and the quality of the twigs renders the plant well worth observation. It flowers in April.

SALIX *Forbiana*.

Basket Osier.

DIOECIA Diandria.

Gen. Char. Male, Cal. the scale of a catkin. Cor. none. Nectary a gland at the base of the stamina. Stam. 1—5. Female, Cal. and Nect. like the male. Cor. none. Stigmas 2. Caps. superior, of 1 cell and 2 valves. Seeds downy.

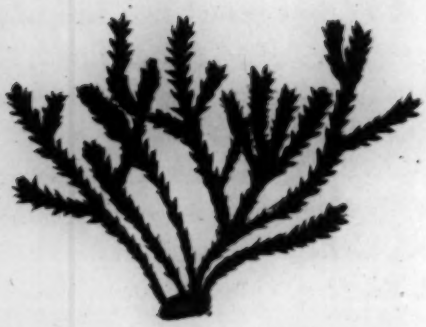
Spec. Char. Trees. Stamen one. Leaves with small stipules, lanceolate, acute, finely toothed, smooth, glaucous beneath. Stigmas linear.

Syn. *Salix Forbiana*. Sm. Fl. Brit. 1044.

S. fissa. Ref. 38, 2. Fl. of Athn. Sup. v. 6. 115; but not of Hoffmann.

THIS, which is highly valuable, as an Osier, for the finer kinds of basket work, and on that account greatly preferred to the foregoing, was sent to Mr. Crowle by the late Rev. Joseph Forby, from Fincham, Norfolk. It has since been observed in many places in Cambridgeshire. We had long thought it Hoffmann's *S. fissa*; but, having received specimens of that at length undeceived us; neither *S. fissa* nor *S. triandra* cloven, but simple and monandrous as in *S. Helix*. We have once luckily found 1 or 2 male flowers at the base of a female catkin, which served to decide this point; for the true male plant we have not seen. The name may serve to commemorate the original discoverer, or more especially its indefatigable Rev. Rob. Forby, an able botanist.

The leaves in this are alternate, rarely almost opposite, truly lanceolate, pointed, of a darker green above, and more thickly toothed or serrated, than in the last; glaucous beneath. Stipulæ small, lanceolate, acute, often wanting. Catkins sessile, so very like in all their parts to *S. Helix* that they can hardly be distinguished; but the leaves afford sufficient marks of difference, and the quality of the osier renders the plant well worth observation. It flowers in April.



Aug.1.1804. Published by Jas Sowerby, London.

GRIMMIA rivularis.

River Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

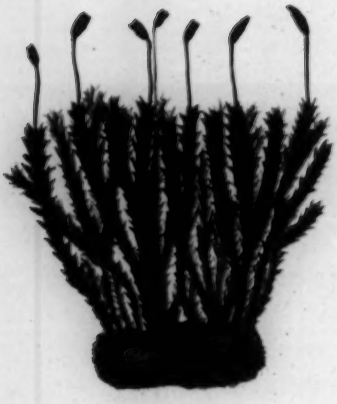
SPEC. CHAR. Leaves ovate, rather pointed, beardless. Capsule cup-shaped, sessile. Lid straight. Stem much branched.

SYN. Grimmia rivularis. *Sm. Fl. Brit.* 1200. *Turn. Musc. Hibern.* 21. *t.* 2. *f.* 2.

SENT from Northumberland by Mr. Winch. It grows on rocks and stones in the rivulets of mountainous countries, bearing fruit in March.

It is next akin to the common *Grimmia apocarpa* figured in *v.* 16. *t.* 1134, but differs in many essential particulars,—the want of bristles, or transparent white points, to the leaves, the shorter capsule, and much smaller and flatter lid.

The stems are perennial, 2 inches or more in height, much branched, spreading, leafy, black and wiry; their lower part bristly with the remaining ribs of old leaves. Leaves rather spreading, of a dark dull green, ovate, entire, keeled, bluntish, with one rib. Capsules solitary, terminal, sessile or nearly so, overtopped by the surrounding leaves, of a short cup-like form, smooth, brown. Lid somewhat hemisphærical, with a little straight point. Fringe of 16 red imperforate teeth, transversely striated, turning brown with age.



Aug.st 1.1804. Published by Jas Sowerby, London

DICRANUM pellucidum.

Pellucid Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem with several level-topped branches, leaves ovato-lanceolate, acute, incurved when dry. Capsule ovate, smooth.

SYN. Dicranum pellucidum. *Hedw. Sp. Musc.* 142. *Sm. Fl. Brit.* 1223. *Turn. Musc. Hibern.* 68.

D. aquaticum. *Ehrh. Crypt.* 213.

Bryum pellucidum. *Linn. Sp. Pl.* 1583. *Huds.* 481. *Hull.* 264. *Abbot.* 237. *Dicks. H. Sicc. fasc.* 12. 22.

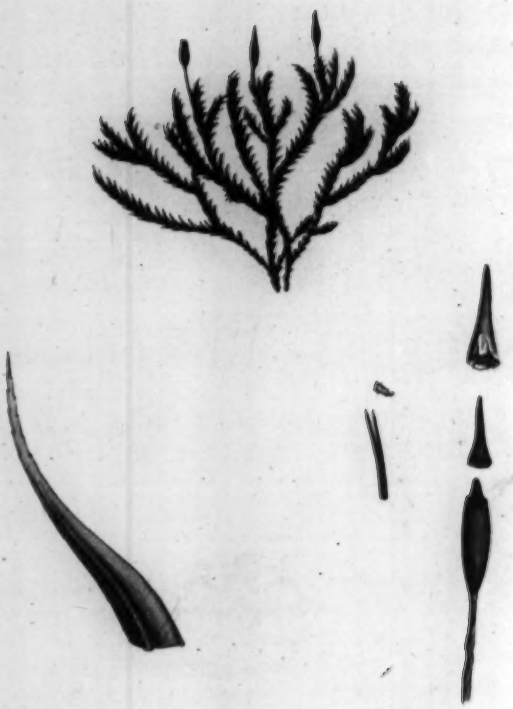
B. palustre pellucidum, capsulis et foliis brevibus recurvis. *Dill. Musc.* 364. *t.* 46. *f.* 23.

B. erectis capitulis subrotundis fuscis, foliis minoribus pellucidis rugosis. *Raii Syn.* 96.

Mnium pellucens. *With.* 802.

THIS also we received from Mr. Winch, bearing ripe capsules in March. It is an inhabitant of watery shady places in mountainous or alpine situations.

The perennial slender leafy upright stems form dense tufts, and are more or less divided into erect branches, which all rise nearly to an equal height. The lower part of the stems is clothed with dense rusty down. Leaves loosely and alternately imbricated, lanceolate, dilated at the base, transparent, of a yellowish or blackish green according to circumstances, keeled, single-ribbed, acute or sometimes pointed, variously twisted by drying soon after they are gathered, their margin (according to Mr. Sowerby and Mr. Turner) finely serrated toward the point. This I am not able to detect. Fruitstalks terminal, pale yellowish green. Capsule nodding, ovate, slightly curved, quite smooth, with a spreading margin. Lid as long as the capsule, incurved. Fringe purplish, large and handsome, tipped with yellow.



Aug.st 1. 1804. Published by Jas Sowerby, London

TRICHOSTOMUM heterostichum.

Serrated Hoary Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

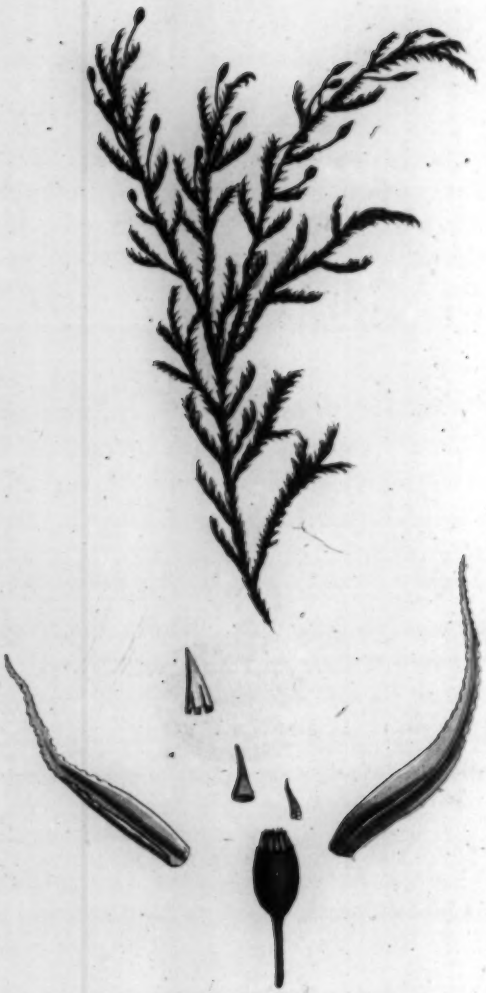
SPEC. CHAR. Leaves lanceolate; with a pellucid serrated point. Capsule cylindrical, erect. Stems forming tufts.

SYN. Trichostomum heterostichum. *Hedw. Sp. Musc.* 109. *Crypt. v.* 2. 70. *t.* 25. *Sm. Fl. Brit.* 1239. *Turn. Musc. Hibern.* 37. *Ehrh. Crypt.* 153.
Bryum heterostichum. *Dicks. Crypt. fasc.* 4. 14.
B. hypnoides, hirsutie canescens, vulgare. *Dill. Musc.* 368. *t.* 47. *f.* 27, A, F, G; according to the observations of Mr. Turner.

GATHERED on Wascherley Edge in the county of Durham by Mr. John Thornhill, and sent us by Mr. Winch. It is indeed not uncommon upon stones in mountainous heathy places; we have gathered it near Edinburgh. The capsules are produced from March to May, nor are they of rare occurrence.

The stems are an inch or two high, branched and leafy, forming dense perennial tufts. Leaves dull green, imbricated, more or less curved to one side, lanceolate, keeled, single-ribbed, entire, tipped with a white pellucid point, whose margins are finely serrated, not toothed. Fruitstalks terminal, almost always solitary, erect, brownish green, twisted, from half an inch to nearly an inch long. Capsule quite erect, cylindrical inclining to oval, smooth, brown, with a purple orifice. Fringe shortish, red, its teeth united at the base in pairs. Lid awlshaped, taper, reddish, about half as long as the capsule. Veil of the same figure, greenish, split into many parts at the base.

If the white serrated points of the leaves be attended to, this species cannot be confounded with the following.



Aug.st 1.1804. Published by Jas Sowerby, London.

TRICHOSTOMUM lanuginosum.

Toothed Hoary Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves lanceolate, with a pellucid toothed point. Capsule ovate. Stem procumbent, branched in a pinnate manner.

SYN. Trichostomum lanuginosum. *Hedw. Sp. Musc.* 109. *Crypt. v.* 3. 3. *t.* 2. *Sm. Fl. Brit.* 1240. *Turn. Musc. Hibern.* 38.

T. serratum. *Ehrh. Crypt.* 94.

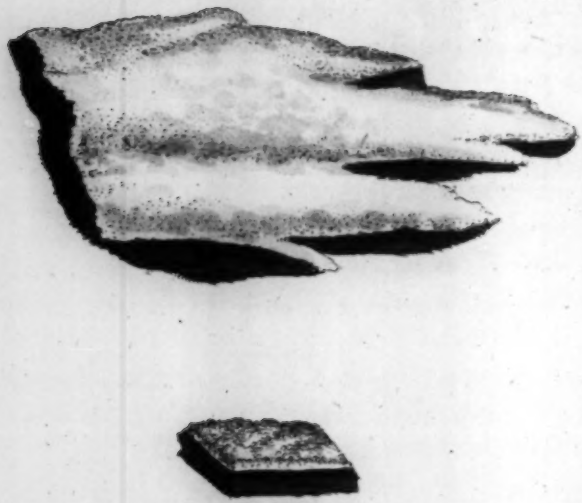
Bryum hypnoides. *Linn. Sp. Pl.* 1584, *α*. *Huds.* 480, *ζ*. *With.* 819, *var.* 1. *Hull.* 259. *Abbot.* 242.

B. hypnoides polycephalon, lanuginosum, montanum. *Dill. Musc.* 372. *t.* 47. *f.* 32.

B. hypnoides, capitulis plurimis erectis, lanuginosum. *Raii Syn.* 97.

THIS is a very common moss in dry mountainous woods, and on exposed rocks, walls, and heaths, but the capsules are rare. We have them from Wales and Northumberland. They are perfected in autumn.

Stems perennial, often a span long, procumbent, or spreading in an arched position, divided into several principal branches, and those subdivided into numerous short ones, ranged alternately in a sort of pinnate manner, though not with great regularity; their summits incurved. Leaves of a dull yellowish green, a little curved inward, imbricated, lanceolate, or linear-lanceolate, keeled, single-ribbed, entire, terminating in a very long pellucid white point, whose margins are closely set with little blunt projecting teeth like those of a wheel, totally different from the serratures of all the other species. Fruitstalks from the small branches, solitary, half an inch long, tawny, twisted. Capsule erect, ovate, thick and short, smooth, yellowish brown. Lid awlshaped, straight. Fringe red. Veil conical, brown, toothed at the edge.



Aug.st 1.1804. Published by Jas Sowerby, London

LEPRARIA alba.

White Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance loosely clothing a thin crust.

SPEC. CHAR. Crust and fructification of an uniform pure white.

SYN. Lepraria alba. *Achar. Meth.* 3.

Lichen albus. *Achar. Prod.* 7. *With. v.* 4. 2. *Relh.* 444. *Abbot.* 256.

L. lacteus. *Sibth.* 316.

Byssus lactea. *Linn. Sp. Pl.* 1639. *Huds.* 609. *Hull.* 308. *Lightf.* 1007.

B. candidissima, calcis instar muscos vestiens. *Dill. Musc.* 2. *t.* 1. *f.* 2.

FOUND on the bark of old trees, or on Mosses, decayed Lichens, and other cryptogamous plants, in shady moist situations, more particularly in mountainous countries.

On small plants it forms irregular broken fragments, looking as if a brush of white-wash had been shaken over them; on bark it grows in a continued, but indeterminate and shapeless, crust, cracked when dry, clothed all over with a granulated or powdery substance. In general the colour of the whole is a pure opaque white; but at certain seasons, principally in summer, the powdery part becomes brownish or yellowish. We conceive this to be a state of temporary decay, after the seeds are dispersed, rather than the ripening of the seeds; for the plant is most vigorous, and most easily parts with its granulated particles, in the damps of winter.

The establishment of this genus seems indispensable. Botanists have sought in vain for shields in this and other species, to make them Lichens; and indeed they are evidently propagated by their powdery part. Whether that part consists of buds or seeds, is too nice a question for us to determine. Of the certainty and constancy of the species there is no doubt. The true *Byssi*, if that genus be to remain at all, are of a fibrous nature.

1850

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Aug.st 1804. Published by Jas Sowerby, London.

LEPRARIA flava.

Yellow Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance loosely clothing a thin crust.

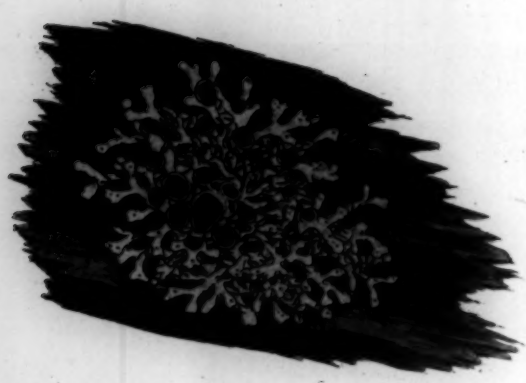
SPEC. CHAR. Crust and fructification of an uniform bright yellow.

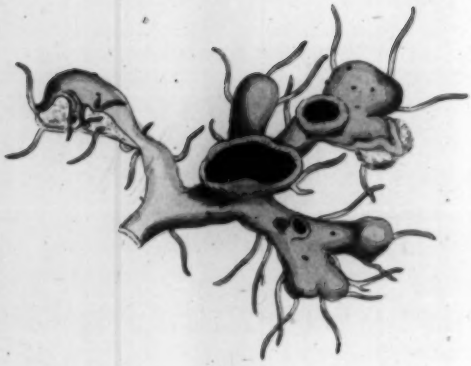
SYN. Lichen flavus. *Achar. Prod.* 6. *With. v.* 4. 3. *Relh.* 444. *Sibth.* 315. *Abbot.* 256.
Byssus candelaris. *Linn. Sp. Pl.* 1639. *Huds.* 608. *Hull.* 308. *Lightf.* 1005.
B. pulverulenta flava, lignis adnascens. *Dill. Musc.* 3. *t.* 1. *f.* 4. *Raii Syn.* 56.
Lepra candelaris. *Ehrh. Crypt.* 288.
Parmelia citrina δ. *Achar. Meth.* 180.

THIS occurs not unfrequently on the rugged bark of old trees, and is found at all seasons. It thrives in summer, and easily parts with its powder when dry.

It is not so thick as the preceding, but like that forms a spreading indeterminate crust, covered entirely with powder of the same bright golden yellow as itself. This colour is constant in the living plant, and permanent in dried specimens.

It so evidently belongs to the genus *Lepraria*, and is acknowledged so universally to produce no shields, that we cannot but wonder to find it ranged in Dr. Acharius's new work as a barren variety of his *Parmelia citrina*, which he thinks is not itself distinct from *P. candelaria*, the *Lichen candelarius* of Linnæus. We are of nothing more confident than that our *Lepraria flava* is distinct from *Lichen candelarius*.





Sept.1.1804. Published by Jas Sowerby, London.

LICHEN tenellus.

Little Ciliated Lichen.

CRYPTOGAMIA Algæ.

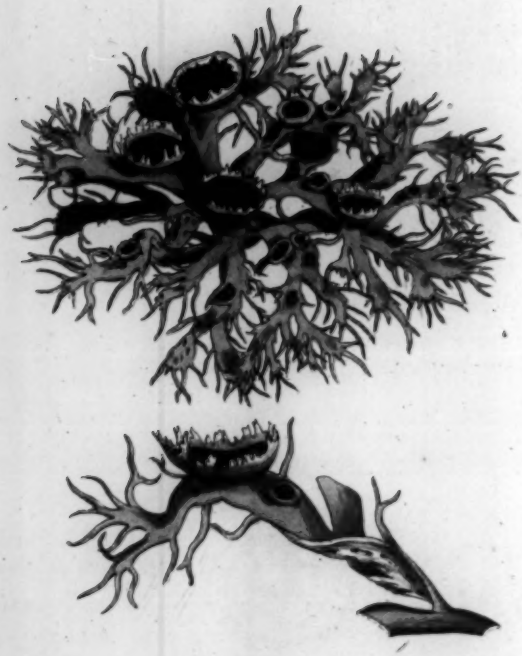
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, procumbent, smooth, greyish: segments linear; their extremities ascending, dilated, obtuse, vaulted, fringed. Shields sessile, blueish-black.

SYN. Lichen tenellus. *Weber.* 235. *Achar. Prod.* 172. *With. v.* 4. 56. *Hull.* 297. *Relh.* 466. *Sibth.* 329. *Abbot.* 266. *Ehrh. Crypt.* 217.
L. ciliaris β. *Huds.* 538.
Lichenoides hispidum minus et tenerius, scutellis nigris. *Dill. Musc.* 152. *t.* 20. *f.* 46.
L. saxatile et arboreum tenerius, foliis pilosis, scutellis in aversa foliorum superficie apparentibus. *Dill. in Raii Syn.* 74.
L. hispidum. *Hoffm. Pl. Lich. t.* 3. *f.* 2, 3.
Parmelia tenella. *Achar. Meth.* 250.

COMMON on the bark of trees, or rather on the branches of shrubs, as well as on pales and stones. The sloe and other bushes in our hedges generally abound with this species at all seasons of the year.

The fronds are depressed, much branched, and somewhat imbricated, of a brilliant greyish white, forming creeping patches scarcely an inch broad; their segments linear, zigzag, rather convex; dilated, obtuse, and vaulted, or somewhat inflated, at their extremities, often powdery, and fringed at that part with long, blackish or white, undulating bristles. The shields are sessile on the upper surface of the frond, of a blueish or greyish black, flat; their border of the substance and colour of the leaf, inflexed, externally very smooth, internally crenate.



Sept.r 1.1804. Published by Jas. Sowerby, London.

LICHEN ciliaris.

Great Ciliated Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, ascending, minutely pubescent, of a greenish glaucous grey: segments linear, laciniated, fringed. Shields elevated, brownish black.

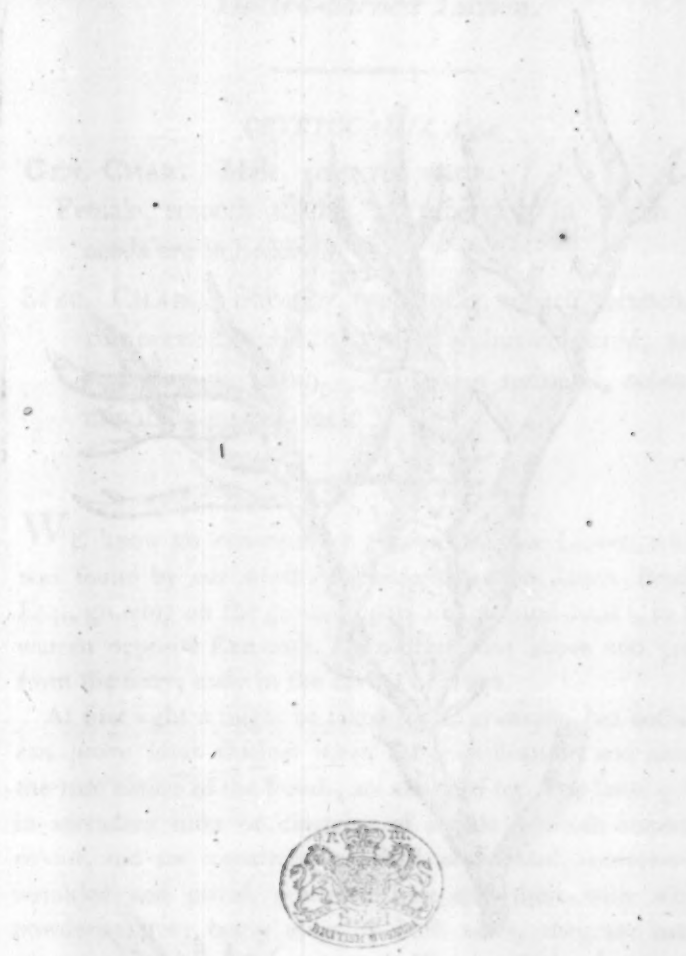
SYN. Lichen ciliaris. *Linn. Sp. Pl.* 1611. *Achar. Prod.* 173. *Huds.* 538. *With. v.* 4. 55. *Hull.* 297. *Relh.* 466. *Sibth.* 328. *Abbot.* 265. *Dicks. H. Sicc. fasc.* 7. 24. *Ehrh. Crypt.* 227.
Lichenoides hispidum majus et rigidius, scutellis nigris. *Dill. Musc.* 150. *t.* 20. *f.* 45.
L. arboreum foliosum cinereum, scutellis nigris, foliorum extremitatibus hispidis et pilosis. *Raii Syn.* 73.
L. ciliare. *Hoffm. Pl. Lich. t.* 3. *f.* 4.
Parmelia ciliaris. *Achar. Meth.* 255.

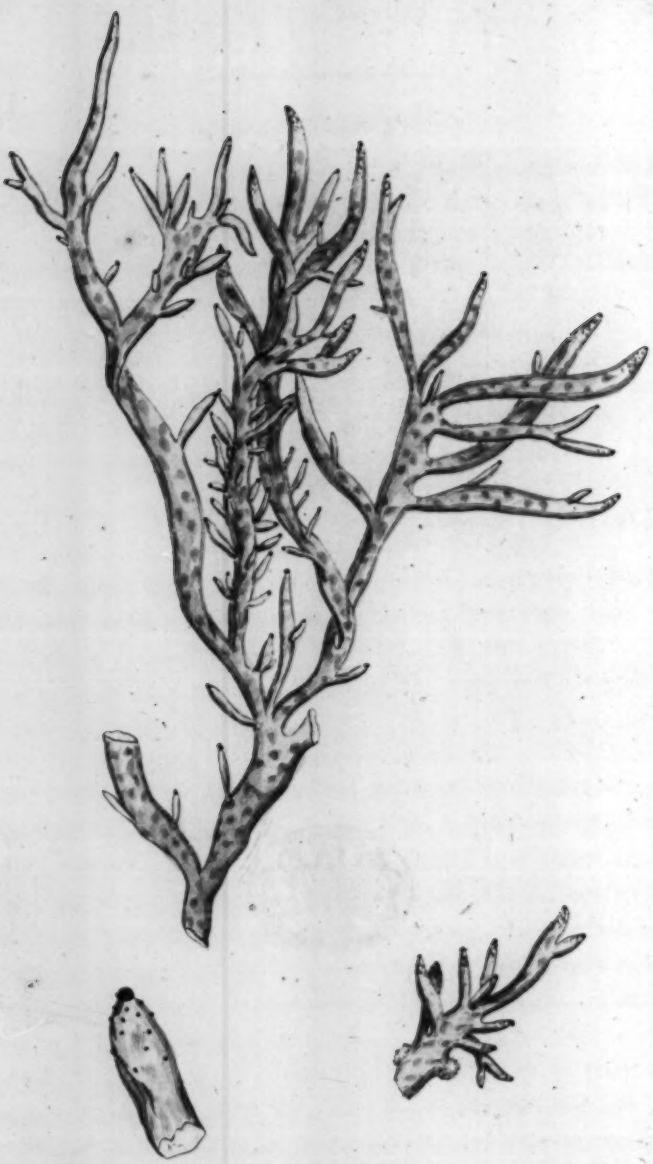
NO less abundant than the last in its appropriate situations, which are the trunks and branches of large trees, sometimes stones, where it is found at all seasons bearing copious shields.

It is much larger than the preceding, with which Linnæus confounded it, and differs in many essential characters. The colour is more dull and greenish, especially when wet, the surface minutely downy, the fronds less depressed, and much more copiously fringed. The whole plant is very much branched, its segments dilated upwards, rather convex throughout, but not inflated or vaulted at the end. The under side is white and concave. Shields on thick stalks, flattish, large, brownish black, glaucous when young, their border inflexed and crenate. Sometimes the border is greatly dilated, variously laciniated, and grows erect.

LICHEN ciliaris.

Great Ciliated Lichen.





Sept.1.1804. Published by Jas. Sowerby.

LICHEN stictoceros.

Dotted-horned Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, spreading, much branched, compressed, wrinkled, pale sulphur-coloured; solid and spongy within. Tubercles terminal, solitary, minute, convex, black.

WE know no synonym or account of this Lichen, which was found by our worthy friend and patron James Brodie, Esq., growing on the ground upon broken sand-banks, in the warren opposite Exmouth, Devonshire, not above 300 yards from the ferry, early in the spring of 1803.

At first sight it might be taken for *L. prunastri*, but nothing can prove more distinct when the fructification, and indeed the true nature of the fronds, are attended to. The latter grow in spreading tufts or clusters, of a pale greenish sulphur-colour, and are repeatedly branched, divaricated, compressed, wrinkled and pitted, scattered here and there with white powdery warts: being alike on both sides, they are easily distinguished from *L. prunastri*. The internal substance is light and spongy, of the purest white, not tubular, nor are the *axillæ* perforated. The terminal branches are acute and more cylindrical, often dotted with little dark specks, and each tipped with fructification in the form of minute black convex solitary smooth tubercles, such as are proper to the tribe *Cladonia* in Acharius's *Prodromus*, evincing the affinity of this new species to *L. uncialis* and its allies.

LICHEN stictocerus.

Dotted-horned Lichen.

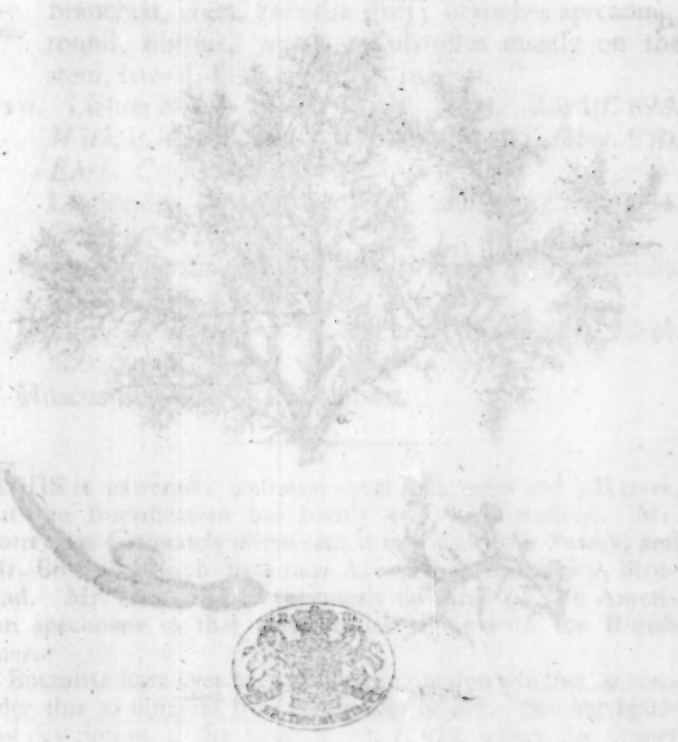
CRYPTOGAMIA, Alga.

Gen. Char. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Shrubby, spreading, much thrusted, compressed, wrinkled, pale sulphur-coloured; solid and spongy within. Tubercles terminal, solitary, plane, convex, black.

WE know no synonym or account of this Lichen, which was found by our worthy friend and patron James Brodie, Esq., growing on the ground upon broken sand-banks, in the warren opposite Exmouth, Devonshire, not above 300 yards from the ferry, early in the spring of 1803.

At first sight it might be taken for L. pruinatri, but nothing can prove more distinct when the fructification, and indeed the true nature of the fronds, are attended to. The latter grow in spreading tufts or clusters, of a pale greenish sulphur-colour, and are repeatedly branched, dilated, compressed, wrinkled and pitted, scattered here and there with white powdery warts; being alike on both sides, they are easily distinguished from L. pruinatri. The internal substance is light and spongy, of the purest white, not tubular nor are the scales perforated. The terminal branches are acute and more reflexed, often dotted with little dark specks, and each dotted with fructification in the form of minute black convex solitary smooth tubercles, such as are proper to the tribe (Zachariæ in Acharius's Prodromus), evincing the affinity of this rare species to L. pruinatri and its allies.



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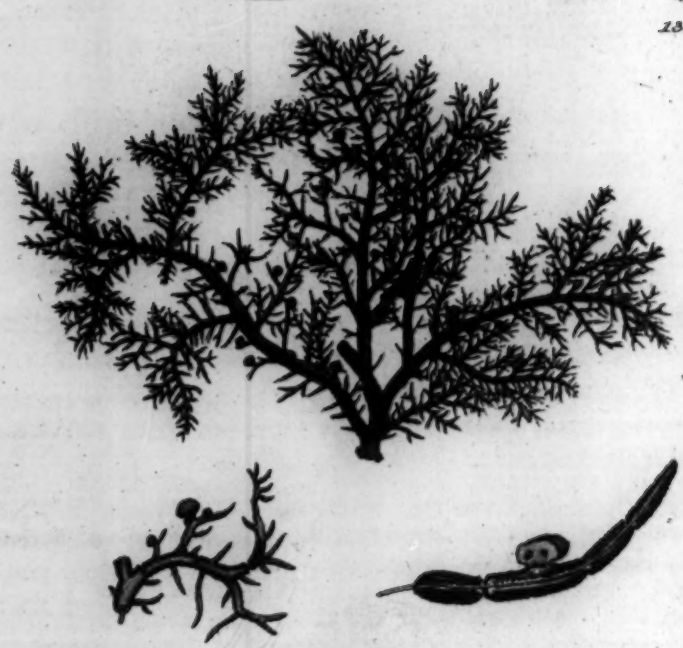


Sept.1.1804. Published by Jas. Sowerby, London.

LICHEN hirtus.

Common Rough Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, with a central thread, much branched, erect, greenish grey; branches spreading, round, fibrous, warty. Tubercles mostly on the stem, lateral, flesh-coloured, rugged.

SYN. Lichen hirtus. *Linn. Sp. Pl.* 1623. *Lightf.* 895. *With. v.* 4. 46. *Hull.* 306. *Sibth.* 335. *Abbot.* 270. *Ehrh. Crypt.* 138.

L. floridus β. *Huds.* 560. *Achar. Prod.* 224. *Relh.* 474.

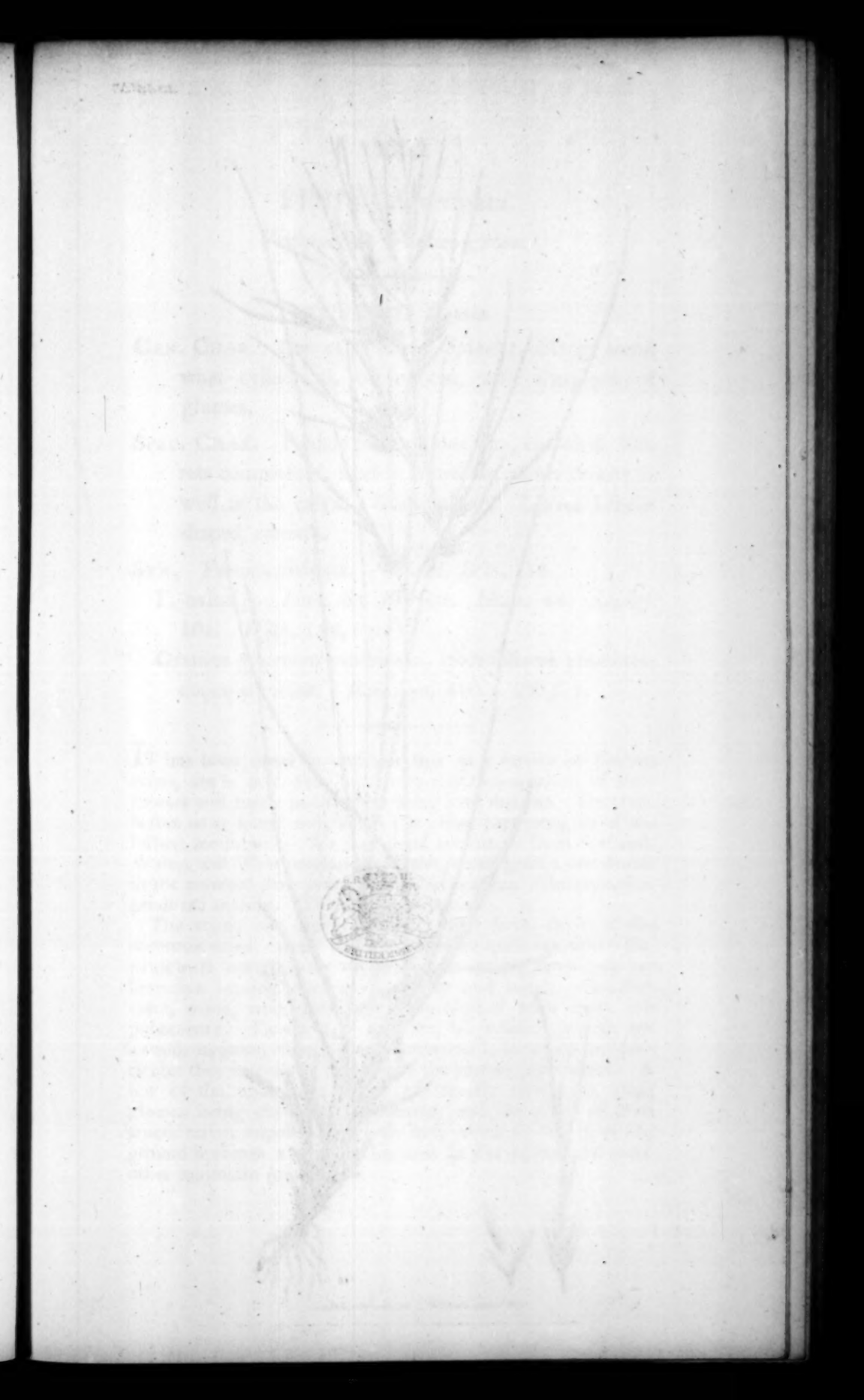
Usnea vulgatissima tenuior et brevior, sine orbiculis. *Dill. Musc.* 67. *t.* 13. *f.* 12.

U. hirta. *Hoffm. Pl. Lich. t.* 30. *f.* 1. *Achar. Meth.* 309.

Muscus ramosus. *Raii Syn.* 65.

THIS is extremely common upon park pales and old trees, but the fructification has hardly ever been noticed. Mr. Borrer has fortunately discovered it near Lewes in Sussex, and Mr. Brodie on birch trees near Avemore in Strathspey, Scotland. Mr. Menzies had previously favoured us with American specimens in that state, which agree with the British ones.

Botanists have ever been divided in opinion whether to consider this as different fron *L. floridus* or not. See our figure and description of the latter, *v.* 13. *t.* 872, where the proper tubercles are for the first time delineated. We did not then know that they had already been described by Hoffmann, Persoon and Schrader. The tubercles of *L. hirtus* exactly agree with them, except in being situated for the most part on the main stem or larger branches, which generally are continued straight beyond them, not suddenly bent back like the small fruit-bearing branches of *L. floridus*. Whether this circumstance, and the want of the radiating disks, may establish it as a species or not, botanists must form their own opinions. The whole habit, colour and surface of the two plants scarcely afford any distinctions.



Sept.1.1804. Published by Jas Sowerby, London.

FESTUCA vivipara.

Viviparous Fescue-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, somewhat cylindrical, two-ranked, with sharp-pointed glumes.

SPEC. CHAR. Panicle pointing one way, crowded. Florets compressed, keeled, beardless, rather downy as well as the calyx. Stem square. Leaves bristle-shaped, smooth.

SYN. Festuca vivipara. *Sm. Fl. Brit.* 114.

F. ovina β. *Linn. Sp. Pl.* 108. *Huds.* 44. *Lightf.* 101. *With.* 152, *var.* 4.

Gramen sparteum montanum, spicâ foliaceâ gramineâ, majus et minus. *Raii Syn.* 410. *t.* 22. *f.* 1.

IT has been usual to consider this as a variety of *Festuca ovina*, see *v.* 9. *t.* 585, but a very slight comparison of their flowers will surely justify their being kept distinct. The plant before us is found only about the cloud-capt summits of the loftiest mountains. We have dried specimens from Scotland, Wales, and Westmoreland, and the recent garden one drawn in the annexed plate exactly agrees with them. The panicle is produced in July. The root is perennial.

The stems and leaves scarcely differ from those of the common *ovina*, except that the latter are quite smooth. The panicle is upright, for the most part simply branched, the branches leaning one way, angular and rough. Spikelets erect, ovate, compressed, generally clothed with short soft pubescence. Florets 4, 5 or more, lanceolate, pointed, not awned, angular, ribbed, closely imbricated, in which last particular they essentially differ from the species just named. A few of the uppermost florets are mostly viviparous, their glumes being elongated into leaves, and the place of their fructification supplied by a leafy bud, which on falling to the ground becomes a plant, as happens in *Poa alpina* and some other mountain grasses.

[1855]

FESTUCA vivipara.

Viviparous Fescue-grass.

TRIANDRIA Digynia.

Gen. Char. Cal. of 2 valves, Spikelet oblong, roma-
what cylindrical, two-ranked, with sharp-pointed
glumes.

Spec. Char. Panicle pointing one way, crowded. Flo-
rets compressed, keeled, bearded, rather downy as
well as the calyx. Stem sparse. Leaves bristle-
shaped, smooth.

Syn. Festuca vivipara. Sm. Fl. Brit. 114.
F. ovina 2. Linn. Sp. Pl. 108. Huds. 44. Lightf.
101. With. 132, var. c.
Gramen sparsum nodosum, spica foliacea gramina,
majus et minus. Raii Syn. 418. t. 22. f. 1.

IT has been usual to consider this as a variety of Festuca ovina, see p. 353, but a very slight comparison of their flowers will surely justify their being kept distinct. The plant before us is found only on the Clova-cop mountain of the loftier mountains. We have dried specimens from Scotland, Wales, and N. Switzerland, and the two latter were drawn in the annexed plate exactly agreeing with them. The panicles produced in July. The root is perennial.

The stems and leaves scarcely differ from those of the common ovina, except that the latter are quite smooth. The panicle is upright, for the most part simply branched, the branches leaning one way, angular and rough. Spikelets erect, ovate, compressed, generally obtained with short soft pubescence. Florets 3, 4 or more, lanceolate, pointed, not awned, angular, ribbed, closely imbricated, in which last particular they essentially differ from the species just named. A few of the uppermost florets are mostly viviparous, their glumes being elongated into leaves, and the place of their fructification supplied by a leafy bud, which on falling to the ground becomes a plant, as happens in Poa alpina and some other mountain grasses.

Sept.1.1804. Published by Jas. Sowerby, London.

STIPA pennata.

Feather-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, single-flowered. Outer valve of the *Corolla* terminated by a very long *awn*, jointed at the base.

SPEC. CHAR. Awns feathery.

SYN. Stipa pennata. *Linn. Sp. Pl.* 115. *Sm. Fl. Brit.* 138. *Huds.* 29. *With.* 168. *Hull.* 17.

Gramen sparteum pennatum. *Dill. in Raii Syn.* 393.

THIS is one of the few plants admitted, with a mark of doubt, into the *Fl. Brit.* on the authority of books alone. The accurate Dr. Richardson and Mr. Lawson informed Dillenius they had found the Feather-grass on lime-stone rocks, overhanging a little valley called Long Sleadale, Westmoreland. They could not be mistaken as to its identity; and though it has often since been sought there in vain, it may, like *Ligusticum cornubiense*, reward the searches of some future botanist. There being no coloured figure of it extant, added to its great elegance, is a sufficient motive for its publication here. In curious gardens it is cultivated for the sake of its plumy awns, which are sometimes worn by ladies as feathers, or used to decorate the chimney-piece in winter. In the latter situation, the air of the room keeps them in perpetual motion.

This grass is perennial, and flowers in June. The leaves are upright, long, slender, acute, and roughish. Stems a foot high, leafy, smooth, simple, with 3 or 4 joints. By mistake they are said in the *Fl. Brit.* to have none. The simple panicle bursts from the very long and large sheath of the upper leaf. The permanent outer valve of the corolla is crowned by a feathery awn of immoderate length, twisted below, which conveys the seed to a distance: the valve, being very sharp and barbed, works its way into the ground, and the awn then separates from it by means of the brittle joint.

SILPA pennata.

Feather-grass.

TRIANDRIA Digynia.

Gen. Char. Cal. of 2 valves, single-flowered. Outer valve of the corolla terminated by a very long awn, jointed at the base.

Spec. Char. Awns feathery.

Syn. Stipa pennata. Sp. pl. 114. Sm. Fl. Brit. 108. Mich. 29. With. 168. Pult. 17.

Gramen spartum pennatum. Dill. in Raii Syn. 392.

THIS is one of the few plants admitted, with a mark of doubt, into the Fl. Brit. on the authority of books alone. The accurate Mr. Richardson and Mr. Lawson informed Dillenius they had found the Feather-grass on lime-stone rocks, overhanging a little valley called Long Sleedale, Westmoreland. They could not be positive as to its identity; and though it has often since been sought there in vain, it may, like Lysimachia ciliata, retain the exact spot of some long lost oak. There being no coloured figure of it extant, added to its great elegance, is a sufficient motive for its publication. Its curious gracefulness it is cultivated for the sake of its plumy awns, which are sometimes worn by ladies as feathers, or used to decorate a drawing-piece in water. In the latter situation, the air of the room keeps them in perpetual motion.

The grass is perennial, and flowers in June. The leaves are roughish, long, slender, and involute. Stems a foot high, leafy, smooth, simple, with 2 or 3 joints. Sheaths are said in the Fl. Brit. to have nodes. The simple pedicle bursts from the very long and large sheath of the upper leaf. The pearl-coloured outer valve of the corolla is crowned by a feathery awn of considerable length, twisted below, which conveys the seed to a distance: the valve, being very sharp and barbed, works its way into the ground, and the awn then separates from it by means of the lower joint.

Sept.1 1804. Published by Jas. Sowerby, London.

LINUM usitatissimum.

Common Flax.

PENTANDRIA Pentagynia.

GEN. CHAR. *Cal.* 5-leaved. *Petals* 5. *Capsule* superior, with 10 valves and 10 cells. *Seeds* solitary.

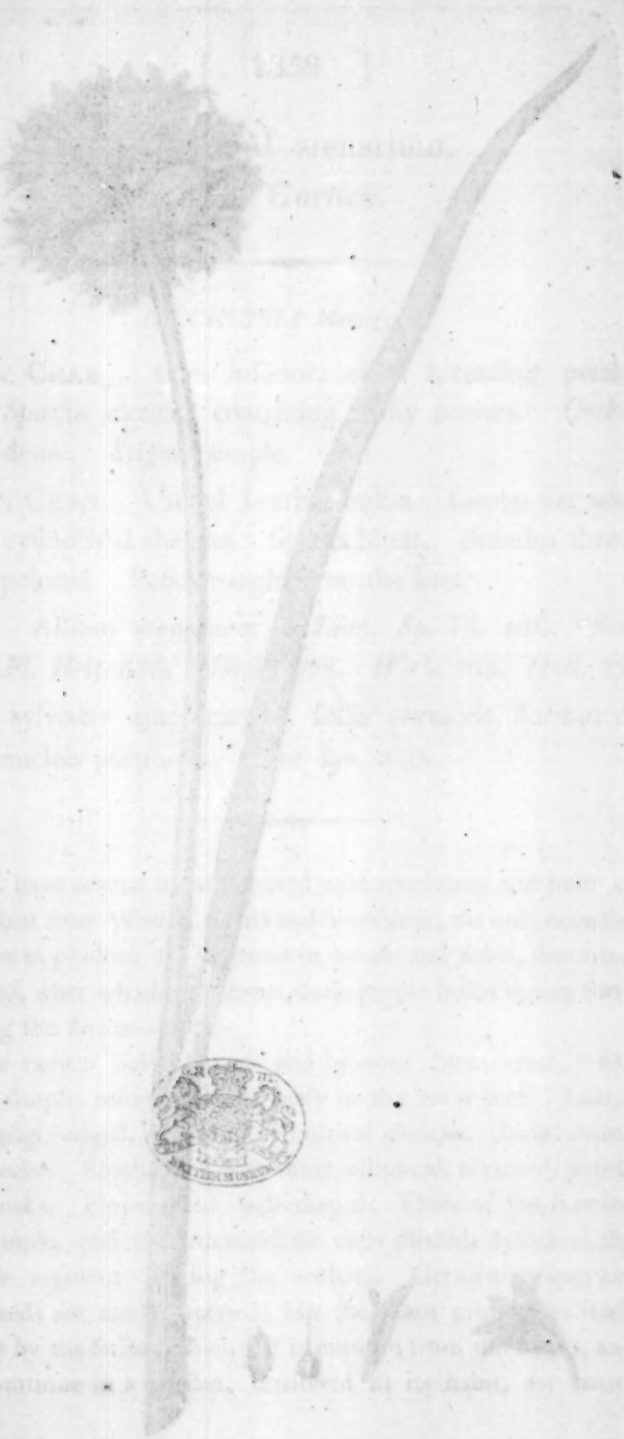
SPEC. CHAR. Calyx-leaves ovate, acute, three-nerved. Petals crenate. Leaves lanceolate, alternate. Stem mostly solitary.

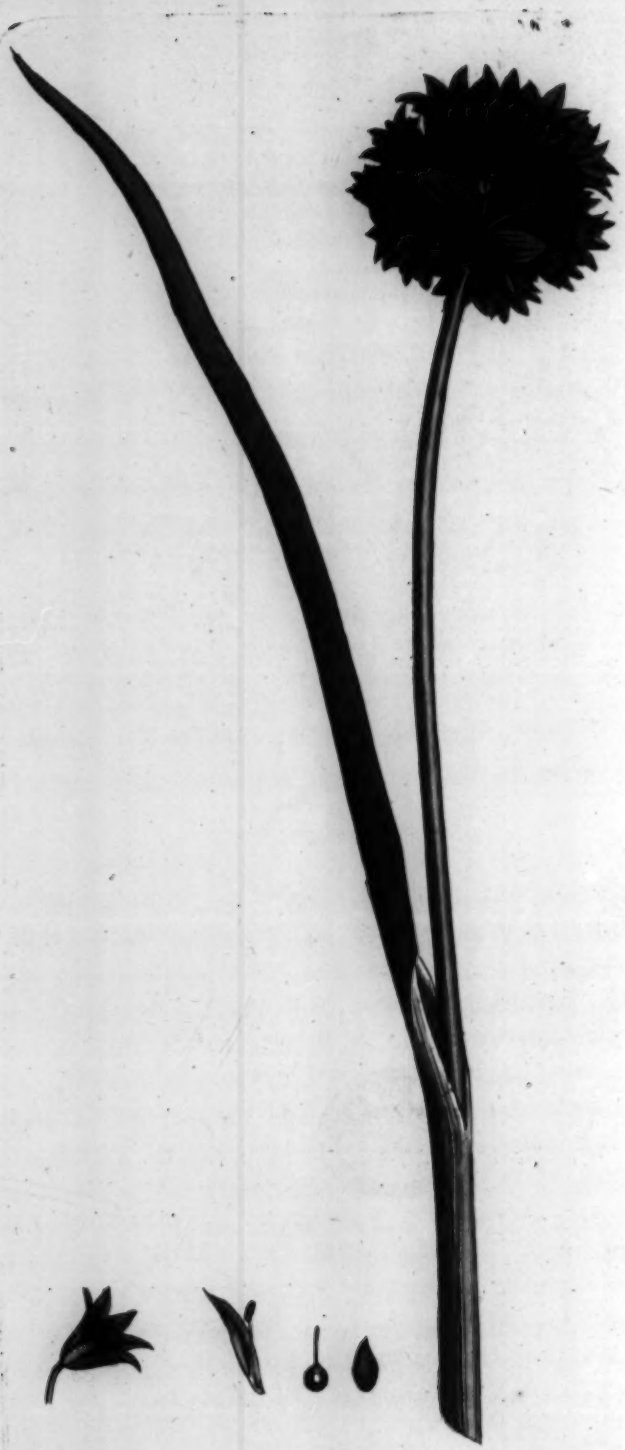
SYN. Linum usitatissimum. *Linn. Sp. Pl.* 397. *Sm. Fl. Brit.* 342. *Huds.* 133. *With.* 321. *Hull.* 66. *Relh.* 127. *Abbot.* 71. *Curt. Lond. fasc.* 5. *t.* 22. *Woodv. Med. Bot. t.* 111. *Mart. Rust. t.* 133.
L. sylvestre, sativum planè referens. *Raii Syn.* 362.

NOT unfrequent in cultivated fields, flowering in July.

Root annual and fibrous. Stem upright, about a foot and half high, generally solitary, round, leafy, smooth; simple below; alternately panicled above. Leaves numerous, alternate, sessile, ovate or lanceolate, entire, 3-ribbed, smooth, rather glaucous; for the most part sharp-pointed, the lower ones only being short, broad and blunt. Flowers upright, panicled, blue with a silky gloss; their petals obovate, veiny and crenate; their calyx-leaves smooth, acute, with 3 prominent ribs, and a membranous irregular margin. Stamina united at their base. Stigmas thicker upwards. Capsule pointed. Seeds elliptical, compressed, brown, highly polished.

The use of this valuable plant for producing the finest thread is well known. Its seeds abound with mucilage, which they impart to water, and afford by expression the common Linseed Oil.





Sept 1.1804 Published by J.d Sowerby, London

ALLIUM arenarium.

Sand Garlick.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of 6 spreading petals. *Spatha* cloven, containing many flowers. *Umbel* dense. *Stigma* simple.

SPEC. CHAR. Umbel bearing bulbs. Leaves flat with cylindrical sheaths. Spatha blunt. Stamina three-pointed. Petals roughish on the keel.

SYN. Allium arenarium. *Linn. Sp. Pl.* 426. *Sm. Fl. Brit.* 356. *Huds.* 138. *With.* 333. *Hull.* 72.

A. sylvestre amphicarpon, foliis porraceis, floribus et nucleis purpureis. *Raii Syn.* 370.

WE have several times received wild specimens and bulbs of this plant from Westmoreland and Yorkshire, the only counties known to produce it. It grows in woods and fields, flowering in July, after which numerous dark-purple bulbs spring forth among the flower-stalks.

The radical bulb is ovate and brown. Stem erect, 3 feet high, simple, round, smooth, leafy in the lower part. Leaves flat, rough-edged, with long cylindrical sheaths. Umbel round and dense. Spatha of 2 or 3 short, elliptical, concave, pointless husks. Flowers red, bell-shaped. Three of the stamina are simple, and the intermediate ones dilated, 3-forked, the middle segment bearing the anthera. Germen triangular. The seeds are rarely ripened; but the plant propagates itself readily by the bulbs, which fall in autumn from the umbel, and will continue in a garden, unaltered in its habit, for many years.

ALLIUM arenarium.
Sand Garlick.

REFERENCE No. 1339.

Gen. Char. Cor. inferior, of 6 spreading petals. Spatha cloven, containing many flowers. Umbel dense. Stigma simple.

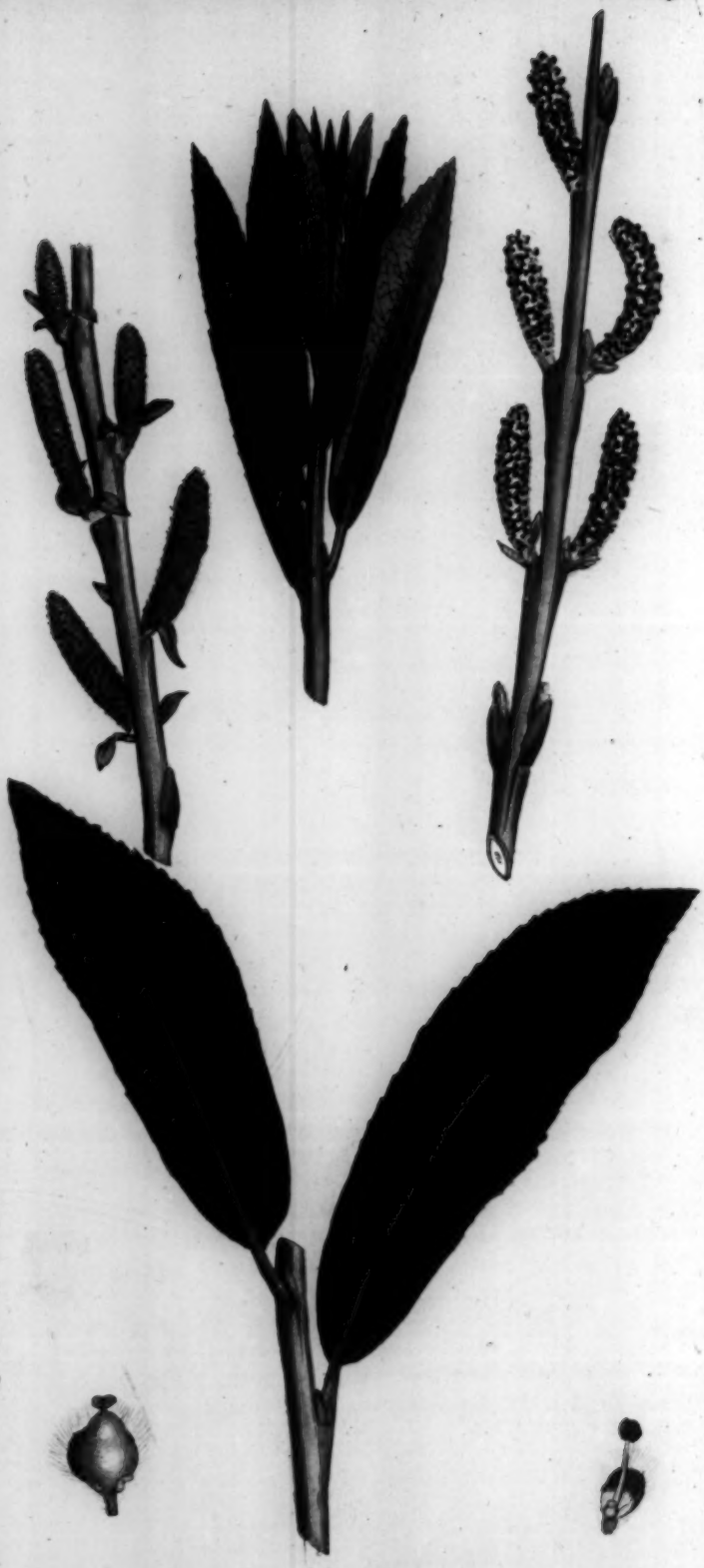
Spec. Char. Umbel bearing bulbs. Leaves flat with cylindrical sheaths. Spatha bluntish. Stamina three-pointed. Petals roughish on the back.

Syn. Allium arenarium. Linn. Sp. Pl. 426. Sm. Fl. Brit. 359. Hudson, 158. With. 333. Mull. 72.

A. sylvestre angustifolium, folio porracei, floribus et radicis purpureis. Raii Syn. 370.

WE have several times received wild specimens and bulbs of this plant from Norfolk and Yorkshire, the only counties known to produce it. It grows in woods and heaths, flowering in July, after which numerous dark purple bulbs spring forth among the flower-stalk.

The radical bulb is ovate and brown. Stem erect, a foot high, round, smooth, hairy in the lower part. Leaves flat, rough edged, with long cylindrical sheaths. Umbel round and dense. Spatha of 2 or 3 short, elliptical, concave, pointless leaflets. Flowers red, bell-shaped. Three of the stamina are simple, and the intermediate ones divided, 3-toothed, the middle segment lopping the anthers. Germen roundish. The stone are rarely opened; but the plant propagates itself readily by the bulbs, which fall in autumn from the roots, and will continue in a garden, undisturbed in its beds, for many years.



Sept.1.1804. Published by Jas Sowerby, London.

SALIX Lambertiana.

Boyton Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Erect. Stamen one. Leaves obovato-lanceolate, acute, serrated, smooth. Stipulæ none. Stigmas very short, ovate, notched.

SYN. Salix Lambertiana. *Sm. Fl. Brit.* 1041. *Donn. Hort. Cant. ed.* 3. 178.

THIS Willow, though a very distinct species, and readily to be known, whether in blossom or in leaf, from all others, appears to have been overlooked by botanists as no other than *S. Helix*. Mr. Lambert finds it abundantly near his family seat of Boyton, Wiltshire, and from him alone we have received the male plant. He has observed the same species, in leaf, at Stains; we have seen it this summer at Harley-ford not far from Henley upon Thames, and, in company with Mr. Crowe and Sir Thomas Cullum, near Icklingham, Suffolk. It flowers very early in April.

It is most allied to *S. Helix*, *t.* 1343, and *Forbiana*, *t.* 1344, agreeing with the former in having frequently opposite leaves and catkins, and with both in general habit, monandrous flowers, and yellow inner bark. It differs however most essentially from both, in having catkins not above half so large and thick, and especially in its stigmas, which are short, ovate, notched, and nearly sessile. The young growing branches and leaves much resemble those of a Honeysuckle, in their glaucous hue with a purplish tinge in their upper part, which is more or less downy. The leaves are of a broad lanceolate figure, dilated above the middle, about half as long as those of *S. Forbiana*, and broader, as well as shorter, than those of *S. Helix*. We could never discern any stipulæ. The present plant is perhaps scarcely inferior to *S. Forbiana* as an osier, and much more common.

Sept.1.1804. Published by Jas Sowerby, London

SALIX myrsinites.

Green Whortle-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptical, serrated, smooth, veiny, polished on both sides. Young branches hairy. Capsules awlshaped, downy.

SYN. Salix myrsinites. *Linn. Sp. Pl.* 1445. *Fl. Lap. n.* 353. *Sm. Fl. Brit.* 1054. *Hoffm. Sal. v.* 1. 71. *t.* 18, and possibly 17. *Fl. Dan. t.* 1054.

S. retusa. *Dicks. Tr. of L. Soc. v.* 2. 288. *With.* 48. *Hull.* 218.

SPECIMENS gathered by Mr. Stuart on the mountains of Glen-co, a spot too celebrated in the reign of King William III., prove this species to be British. These are in Mr. Lightfoot's herbarium; and he has written upon them, "I take this to be *S. myrsinites* rather than that I had before:" in which he is right. His own *myrsinites* however (my *prunifolia*) has till now gone by that name among us; and hence Mr. Dickson, who also found the true one in Scotland, took that for *S. retusa*. Both are confounded together by Hoffmann, because he received them both as *myrsinites* from his correspondents.

Our true kind is a little sturdy upright shrub, scarcely 2 feet high, with numerous short thick divaricated branches, hairy when young. It blossoms in April, May, or even June. The leaves are rigid, shining, elliptical, broad, serrated, recurved, very green, veiny; their withered skeletons often remain on the branches through winter. The young leaves are a little silky. Stipulæ serrated, smooth, spreading, often very large. Catkins terminal, erect, thick and obtuse, purplish. Antheræ blueish. Scales obovate. Nectary notched. Capsule tapering, downy when young. Stigmas oblong, cloven.

Sept.1 1804. Published by Jas Sowerby, London.

SALIX prunifolia.

Plum-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves ovate, serrated, naked; smooth and even above; glaucous beneath. Branches rather downy. Capsules ovate, silky.

SYN. Salix prunifolia. *Sm. Fl. Brit.* 1054.
S. myrsinites. *Lightf.* 599. *Huds.* 427? *Hoffm. Sal. v.* 1. *t.* 19.

OUR figure was taken from the very shrub sent by the late Mr. Lightfoot as his *S. myrsinites*, and now growing in Mr. Crowe's garden. This plant agrees moreover with his specimens at Frogmore, and seems not to be rare on the Scottish mountains. It flowers with us in April or May.

The stem is often 3 feet high, but less constantly erect than in the foregoing, and its branches are commonly more lax, spreading and elongated; the young ones clothed with soft short curved down, not rigid prominent hairs. Leaves larger, ovate, flat, serrated; quite smooth green and shining, without any prominent veins, on the upper side; glaucous, veiny, and often silky, beneath. Stipulæ very minute, half-ovate, convex, notched, often wanting. Catkins from short lateral branches, erect, cylindrical, not half so thick as in the real *myrsinites*, with round, very hairy or silky, scales. Nectary oblong. Capsules smaller than in that species, ovate, clothed with silky hairs, at least while young. Stigmas short, thick and roundish, cloven.

Sept. 1. 1804. Published by Jas. Sowerby, London.

SALIX venulosa.

Veiny-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

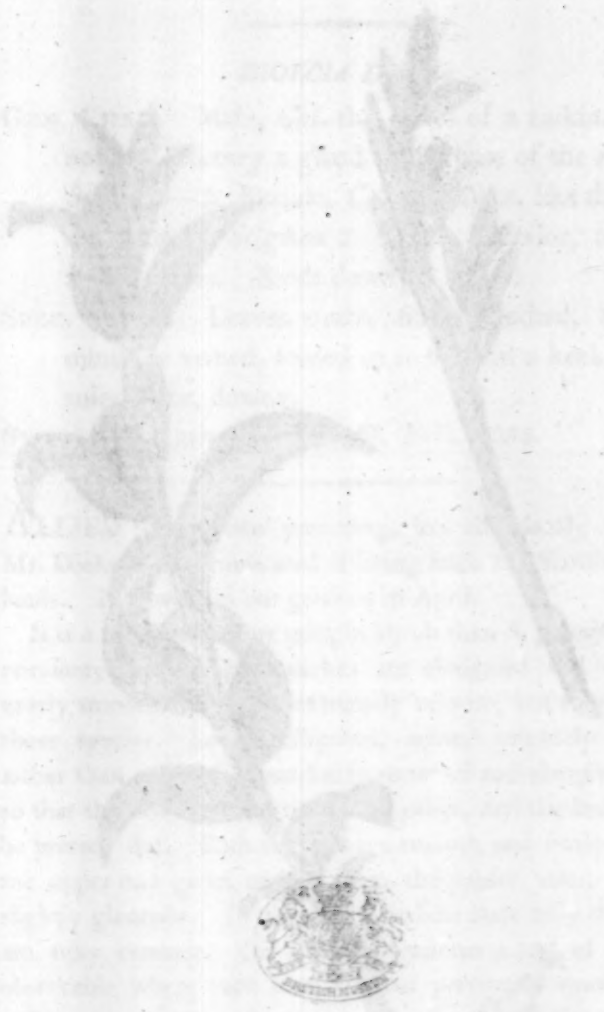
SPEC. CHAR. Leaves ovate, serrated, naked; reticulated with prominent veins above; rather glaucous beneath. Capsules elliptical, silky.

SYN. Salix venulosa. *Sm. Fl. Brit.* 1055.

TO Mr. Crowe I am obliged for first remarking the difference between this plant and the last. It was collected, with many others, by Mr. Dickson in the highlands of Scotland, and Mr. Winch has received specimens of the same from thence. It flowers in Mr. Crowe's garden either late in April or early in May.

In size, and general habit, as well as in the stipulæ, this closely accords with *S. prunifolia;* but the leaves differ materially in having their upper surface always elegantly reticulated with a number of prominent veins, especially towards the margin. These are very apparent in the dry as well as in the living leaf. The under surface is less glaucous in general than in the species last described, but this character varies. The fructification also differs. The catkins are rather more slender; their scales ovate and obtuse; capsules smaller, elliptical rather than ovate, more silky, with a shorter style; the stigmas agree.

There are several specimens in Mr. Lightfoot's herbarium which, by their capsules, seem to belong to this species.



Curt. Bot. Mag. Published by Jas. Sowerby, London.

SALIX carinata.

Folded-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves ovate, finely toothed, smooth, minutely veined, folded so as to form a keel. Capsules ovate, downy.

SYN. Salix carinata. *Sm. Fl. Brit.* 1055.

ALLIED to the two preceding, but abundantly distinct. Mr. Dickson communicated it living from the Scottish highlands. It flowers in our gardens in April.

It is a larger and more upright shrub than *S. prunifolia* and *venulosa;* the young branches are elongated and straight, nearly smooth. Stipulæ extremely minute, but shaped as in those species. Leaves elliptical, acute, minutely toothed rather than serrated, remarkably recurved and sharply keeled, so that the two sides approach each other, and the leaf cannot be pressed flat. Both surfaces are smooth and finely veined; the upper one green and shining, the under paler, opaque, slightly glaucous. In their very earliest state only the leaves are silky beneath. On the old branches a sort of tooth is observable where each footstalk had previously stood. The catkins are small and ovate, with short roundish concave hairy scales. Germen twice as long as its corresponding scale, ovate, silky. Stigmas nearly sessile, ovate, thick and short, at length notched.

We find no notice taken by any author of this Willow or the last.

Oct 1. 1804. Published by Jas. Sowerby, London.

SALIX argentea.

Silky Sand Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves entire, elliptical, somewhat revolute, with a recurved point; rather downy above; silky and shining beneath, as well as the branches.

SYN. Salix argentea. *Sm. Fl. Brit.* 1059.
S. repens γ. *Huds.* 429.
S. fusca. *With.* 51. *Hull.* 219.
S. arenaria. *Lightf.* 604.
S. pumila, foliis utrinque candicantibus et lanuginosis. *Dill. in Raii Syn.* 447. *t.* 19. *f.* 3.

A NATIVE of loose blowing sandy ground on the sea-shore in various parts of England, Scotland and Wales, where its silvery brilliancy renders it conspicuous, and where it flowers abundantly in May.

It varies in size and luxuriance. The branches are long, and more or less spreading, or nearly prostrate; the young ones angular and silky. Leaves on shortish stalks, elliptical, broad, about an inch long, always perfectly entire, somewhat revolute, terminating in a bluntish recurved point: their upper side green, veiny and smooth when fully grown; the under covered with beautiful silvery close-pressed hairs. Stipulæ variable in size, ovate, flat, entire, silky. Catkins cylindrical, obtuse, at first sessile. Scales linear, inclining to obovate, obtuse or notched, hairy. Stamina yellow, smooth. Capsules on very long stalks, ovato-lanceolate, silky. Style short. Stigmas at length cloven. By age the capsules become smooth.

Linnæus having referred the above synonym of Dillenius to his *S. arenaria*, has led all his copiers widely astray.

Oct.1.1814. Published by Jas. Sowerby, London.

SALIX rosmarinifolia.

Rosemary-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves entire, linear-lanceolate, straight; silky beneath. Stem erect. Stipulæ upright, flat. Catkins recurved.

SYN. Salix rosmarinifolia. *Linn. Sp. Pl.* 1448. *Sm. Fl. Brit.* 1062. *With.* 52. *Hull.* 219. *Ehrh. Arb.* 119.

S. repens ε. *Huds.* 429.

S. pumila, rhamni secundi Clusii folio. *Dill. in Raii Syn.* 447.

THIS is found in moist sandy places in several parts of Great Britain, especially in the north. Mr. Crowe received it from Mr. Dickson. It flowers in April.

The shrub is erect, about three feet high, divided into very numerous, upright, round, slender, leafy branches, silky when young. Leaves on short slender stalks, nearly upright, straight, an inch and half or more in length, linear-lanceolate, acute, entire, though sometimes a little glandular at the edge; downy above when young, but becoming smooth and dark green with age; silky and glaucous at all times underneath. Stipulæ generally very upright, flat, lanceolate, rarely divided. Catkins lateral, nearly sessile, ovate, very short, most remarkable for being always recurved. Scales elliptical, small, black, hairy. Germen on a longish stalk, ovato-lanceolate, silky. Stigmas dark purple, almost black, ovate, at length cloven, with a shortish style.

SALIX rosmarinifolia.

Rosemary-leaved Willow.

Oct.1 1804. Published by Jas Sowerby, London.

SALIX Arbuscula.

Little Tree Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves lanceolate, very obscurely toothed, smooth, mostly without stipulæ. Branches downy. Catkins ovate, erect.

SYN. Salix Arbuscula. *Linn. Fl. Lapp. ed.* 2. 297. *t.* 8. *f.* m. *Sp. Pl.* 1445, *γ*. *Sm. Fl. Brit.* 1050.

GATHERED by Mr. Dickson in the highlands of Scotland. We have carefully compared it with Linnæus's Lapland specimen, the original species, though made a variety in *Sp. Pl.*, and find no difference between them. It flowers in April.

The stem is erect, slender, about a foot high, naked below like a little tree, the branches spreading and downy. Leaves on very short stalks, moderately spreading, lanceolate, but liable to vary greatly in breadth, flat, finely veined, at first sight apparently entire, but on accurate inspection they will be found obsoletely toothed, as Linnæus rightly asserted in *Fl. Lapp.* When young they are silky, but when full grown quite smooth above, and nearly so below. Their colour is rather a light green. Of stipulæ no vestiges are to be found, except sometimes on extremely luxuriant radical shoots, where they are small lanceolate and flat. On such shoots the leaves become quite ovate and very broad; see figure. Catkins lateral, nearly sessile, erect, ovate, short. Scales oblong, notched, purplish, hairy. Germen silky, ovato-lanceolate, on a short stalk. Stigmas broad, ovate, tawny, with a very short style.

In natural affinity this comes near to the last, but on account of its smooth leaves Linnæus has placed them far asunder.

Fl. Dan. t. 1055 must be a different species from our plant.

SALIX Arbuscula.

Little Tree Willow.

DIOECIA Diandria.

Gen. Char. Male, Cal. the scales of a catkin. Cor. none. Nectary a gland at the base of the stamina. Stam. 2–5. Female, Cal. and Nect. like the male. Cor. none. Stigmas 2. Capsule superior, of 1 cell and 2 valves. Seeds downy.

Spec. Char. Leaves lanceolate, very obscurely toothed, smooth, nearly without stipules. Branches downy. Catkins ovate, erect.

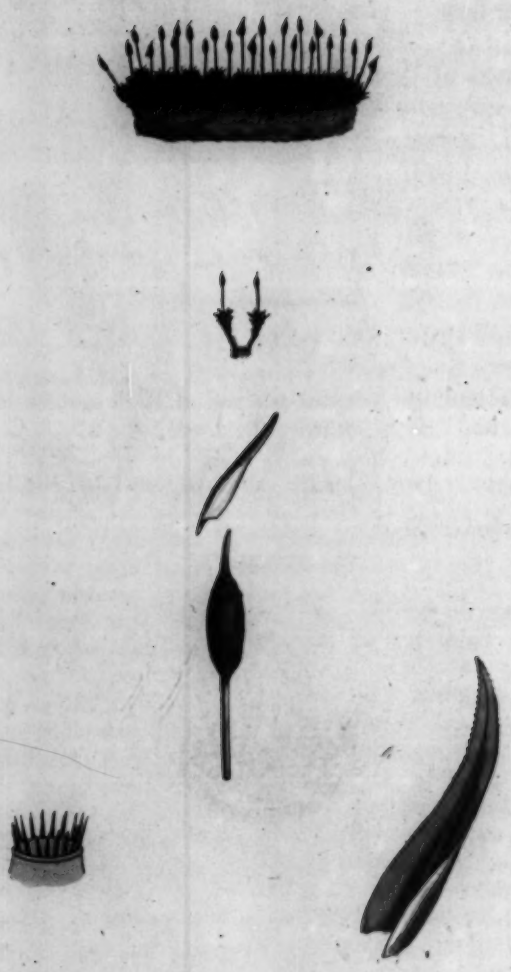
Syn. Salix Arbuscula. Linn. Fl. Lapp. ed. 2. 297. t. 8. f. 7. ma. Sp. Pl. 1445, γ. Sm. Fl. Brit. 1070.

GATHERED by Mr. Dickson in the highlands of Scotland. We have carefully compared it with Linnæus's Lapland specimen, the original species, though made a variety in Sp. Pl., and find no difference between them. It flowers in April.

The stem is erect, slender, about a foot high, naked below like a little tree, the branches spreading and downy. Leaves on very short stalks, moderately spreading, lanceolate, but liable to vary greatly in breadth, flat, finely veined, at first sight apparently entire, but on accurate inspection they will be found obsoletely toothed, as Linnæus rightly asserted in Fl. Lapp. When young they are silky, but when full grown quite smooth above, and nearly so below. Their colour is rather a light green. Of stipules no vestiges are to be found, except sometimes on extremely luxuriant radical shoots, where they are small lanceolate appendages. On such shoots the leaves become quite ovate and very broad; see figure. Catkins lateral, nearly sessile, erect, ovate, short. Scales oblong, notched, purplish, hairy. Germen silky, ovato-lanceolate, on a short stalk. Stigmas broad, ovate, downy, with a very short style.

In natural affinity this comes near to the last, but on account of its smooth leaves Linnæus has placed them far asunder.

Fl. Dan. t. 1055 must be a different species from our plant.



Oct. 1. 1804. Published by J. & J. Sowerby, London

GRIMMIA controversa.

Little Green Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves awl-shaped, curved when dry, dilated at their base. Capsule elliptical. Lid awl-shaped, curved.

SYN. Grimmia controversa. *Sibth.* 277. *Sm. Fl. Brit.* 1187.

Weisia controversa. *Hedw. Sp. Musc.* 67. *Crypt. v.* 3. 12. *t.* 5. B.

Bryum virens. *Dicks. Crypt. fasc.* 1. 4. *H. Sicc. fasc.* 8. 20. *Relh.* 425. *Abbot.* 243.

B. viridulum. *Huds.* 478. *With.* 817. *Hull.* 258. *Curt. Lond. fasc.* 2. *t.* 70. *f.* 1.

B. capillaceum breve, pallidè et lætè virens, capsulis ovatis. *Dill. Musc.* 380. *t.* 48. *f.* 43.

B. trichoides exile, erectis capitulis in pediculis brevissimis. *Dill. in Raii Syn.* 97; except the synonym of Richardson.

THE above specific name was given to this little moss by Hedwig in allusion to the many disputes which had arisen among botanists concerning it. It was generally taken for *Bryum viridulum*, till Mr. Dickson found, by the Linn. Herbarium, that Linnæus had misquoted Dillenius for that species. The present plant was, in fact, unknown to Linnæus, though common throughout Europe on sandy shady banks, where it bears fruit in the spring.

Root perennial. Stems erect, short, leafy, mostly simple, forming wide velvet-like patches, conspicuous by their light bright green colour. The leaves are awl-shaped, slender, broader towards the base, of a fine yellowish green, occasionally darker and more dull. Mr. J. Sowerby has found their points to be serrated. When dry they curl inwards. Stalk slender, yellow, and pellucid. Capsule erect, exactly elliptical, brown, smooth, red at the mouth, and sometimes at the base. Lid slender, curved, rather shorter than the capsule. Veil pale.

Oct. 1. 1801. Published by Jas. Sowerby, London.

DICRANUM viridulum.

Smallest Fern Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem ascending. Leaves imperfectly two-ranked, imbricated, elliptic-lanceolate. Fruit-stalk terminal. Lid swelled at the base.

SYN. Dicranum viridulum. *Sm. Fl. Brit.* 1230.

Fissidens exilis. *Hedw. Sp. Musc.* 152. *t.* 38. *f.* 7—10.

Bryum viridulum. *Linn. Sp. Pl.* 1584. *Dicks. Crypt. fasc.* 1. 3. *t.* 1. *f.* 5. *and fasc.* 4. 8.

B. paucifolium. *With.* 814. *Hull.* 257.

AS the preceding moss was unknown to Linnæus, so was this (the more rare of the two) to Dillenius. It grows on a clay soil, in shady situations, bearing fruit in the winter or spring, and is generally presumed to be annual. Mr. W. Borrer found it at Hurst-perepoint in Sussex.

This is one of the smallest of mosses, the *Phasca* excepted, and so remarkable for the fewness of its leaves, that Withering's name *paucifolium* would be excellent, if wanted. He confounds its synonyms however with the preceding, and we are obliged to say his remarks, and those of Hedwig himself, respecting this species, are altogether erroneous and unwarrantable. Mr. Dickson only is right. The specimens in the Linnean Herbarium have all the marks which stamp them as original and authentic. They alone answer to all that Linnæus has said about his *B. viridulum*, and their leaves are imbricated; as well as undulated, or crisped, by drying.

Root small and downy. Stem simple, very short, mostly oblique. Leaves few, imbricated, obscurely two-ranked, elliptic-lanceolate, entire, single-ribbed: the uppermost largest, and generally curved. Stalk terminal, slender, reddish. Capsule erect, ovate, contracted below the mouth. Lid very acute, most remarkably tumid at the base.